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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/8 4/2
19316A MLRS, MISSILE NUMBERS V15-001, V28-001, ROUND NUMBERS V--ETC(U)
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9 METEOROLOGICAL DATA REPORT

6 19316A MLRS
Missile Numbers V15-001, V28-001
Round Numbers V-173/AT-4, V-174/AT-5,
22 July 1981.

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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INTRODUCTION

19316A MLRS, Missile Numbers V-15 and V-28-001, Round Numbers V-173/AT-4 and V-174/AT-5, were launched from BRILLO, White Sands Missile Range (WSMR), New Mexico, at 1330 and 1430 MDT, 22 July 1981. The scheduled launch times were 1330 and 1430 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observation:

a. Surface.

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the D-3 1/2 Met Site at T-0 minutes.

(2) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

b. Upper Air:

(1) Low level wind data were obtained from Double Theodolite Pilot-Balloon observations at:

SITE AND ALTITUDE

D-3 1/2	1150 & 1700 Meters
MAL	1150 & 2000 Meters

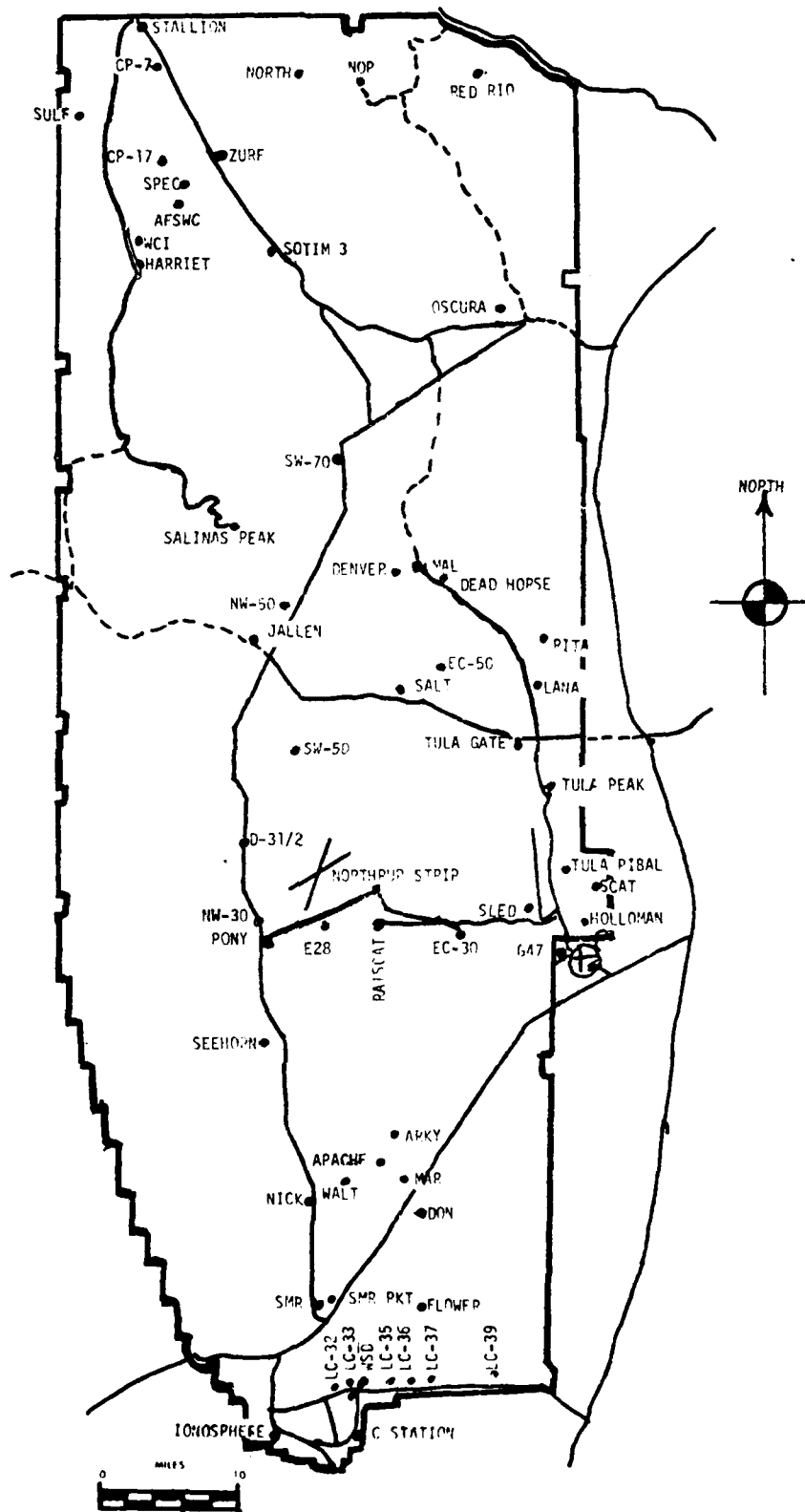
(2) Air structure data (rawinsonde) were collected at the following Met Sites:

SITE AND TIME

WSD	0730 MDT
NW-30	1030 MDT
JALLEN	1130 MDT
NW-30	1330 MDT
JALLEN	1430 MDT

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Unannounced	<input type="checkbox"/>
Justification	
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WSMR METEOROLOGICAL SITES



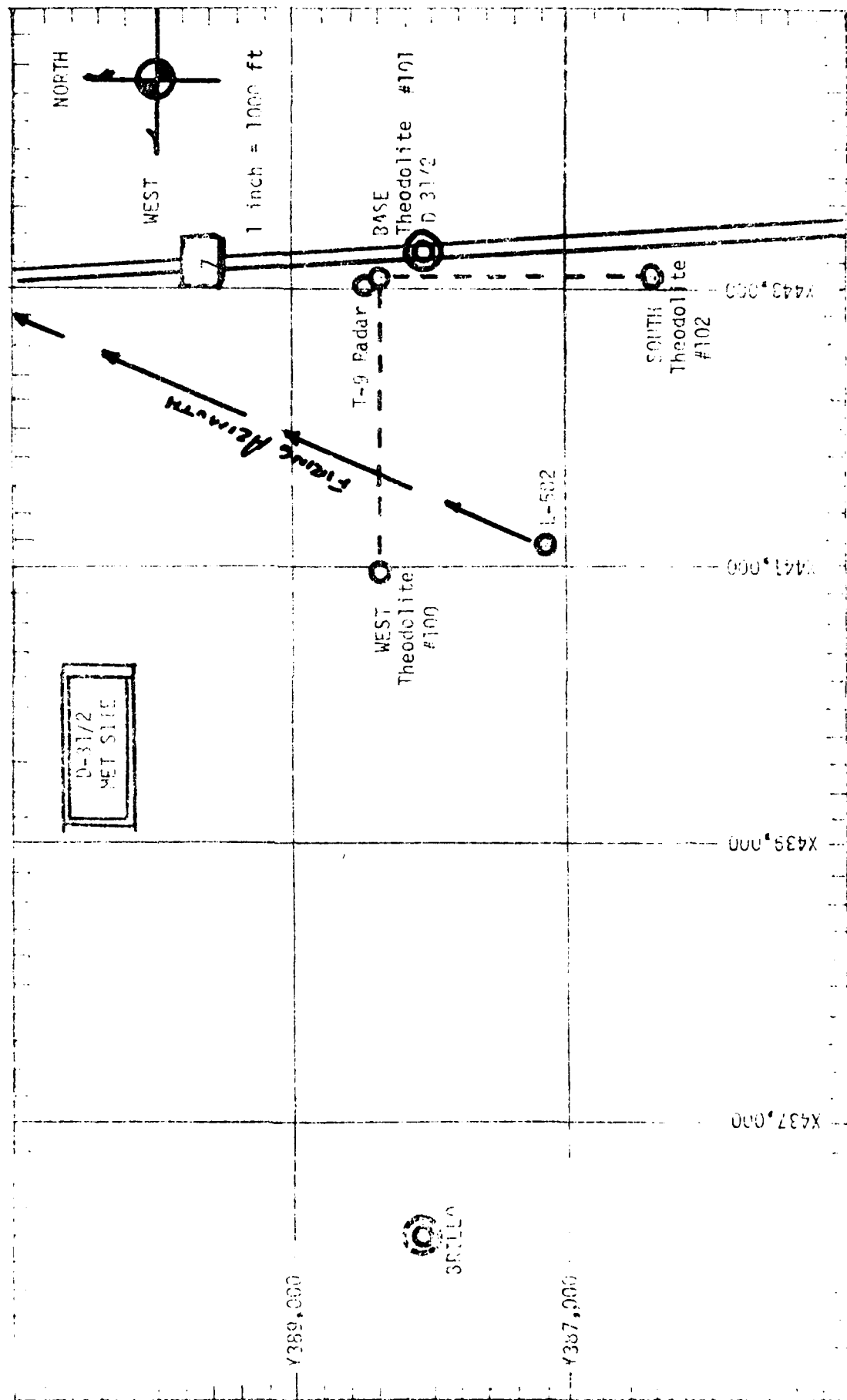


TABLE 1									
DATE 22 DAY JULY 1981									
TIME MDT									
TIME	PRESSURE	TEMPERATURE	REL. HUM.	WIND	WIND	WIND	WIND	WIND	VISIBIL-
M D J	mb	°C	%	dir	sp	dir	sp	dir	ity
1330	878.1	106.0	41.1	60.1	11.0	22	033	160	3
1430	878.8	105.4	40.8	52.0	11.0	17	47	120	6

TABLE 2									
OBSERVATIONS TO VISIBILITY									
1st LAYER									
AMT TYPE TGT									
	2	CU	8000						
	2	CU	8000						

PSYCHOLOGICAL DATA									
TIME: MDT									
SPY GULB TEMP.									
MET GULB TEMP.									
MET GULB TEMP.									
DEW POINT									
	1330	41.1	40.8	22.6	19.5	14.9	11.0	17	

TABLE 2

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 22 July 1981

SITE: D-3 1/2
 TIME: 1340 MDT
 WSTM COORDINATES:
 X= 443,093.12
 Y= 388,317.32
 H= 3,964.34

SITE: MAL
 TIME: 1330 MDT
 WSTM COORDINATES:
 X= 509,421.05
 Y= 495,563.18
 H= 4,126.81

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	160	03
150	097	04
210	094	04
270	096	05
330	106	04
390	119	03
500	136	02
650	171	02
800	185	03
950	203	02
1150	316	02
1350	356	04
1550	023	05
1750	044	06
2000	M I S G	

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	270	02
150	287	02
210	293	03
270	289	03
330	273	03
390	249	03
500	243	05
650	249	08
800	236	06
950	226	07
1150	199	05
1350	199	05
1550	M I S G	
1750	M I S G	
2000	M I S G	

All data obtained from Double Theodolite Tracked Pilot-Balloon observations.

TABLE 3

F-TIME PILOT-BALLOON TRACKING DATA

DATE 22 July 1981

SITE: D-3 1/2
 TIME: 1440 MDT
 NSTM COORDINATES:
 X= 443,093.12
 Y= 388,317.32
 H= 3,964.34

SITE: MAL
 TIME: 1430 MDT
 NSTM COORDINATES:
 X= 509,421.05
 Y= 495,563.18
 H= 4,126.81

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS	LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	100	04	SURFACE	220	05
100	087	07	100	182	05
210	096	07	210	172	06
270	109	08	270	185	07
330	119	08	330	190	08
330	128	09	330	191	08
500	128	09	500	191	07
650	132	05	650	183	06
800	188	05	800	174	06
950	196	06	950	164	06
1150	191	07	1150	175	07
1350	M I S G		1350	187	11
1550	M I S G		1550	189	12
1750	M I S G		1750	143	03
2000	M I S G		2000	099	04

All data obtained from Double Theodolite Tracked Pilot-Balloon observations.

TABLE 4

AIMING AND T-TIME COMPUTER MET MESSAGES
22 July 1981

WSD 0730 MDT	NW-30 1030 MDT	JALLEN 1130 MDT
METCM1324064	METCM1329065	METCM1332065
221350122880	221650123879	221750124877
00000000 29520880	00569002 30460879	00000000 30600877
01246004 28980870	01024006 30290870	01349006 30600867
02186003 30100845	02270001 30230845	02249002 30380843
03300002 29960808	03000000 30040808	03589002 30110806
04352002 29610763	04602003 29730763	04632003 29750761
05046005 29190720	05006006 29320720	05027009 29360719
06069009 28780679	06043007 28890679	06107007 28930678
07130015 28370639	07165007 28440640	07222008 28460639
08171019 27960602	08214015 28000603	08241012 28000601
09180022 27490566	09217020 27560567	09229019 27530566
10182022 27020532	10211025 27150533	10231021 27080531
11266020 26830499	11306017 26920500	11331017 26870499
12333019 26410453	12379012 26400454	12396011 26400453
13346012 25640398	13390007 25690399	13388008 25660398
14353006 24910348	14285004 24990348	14298006 25010348
15263006 24250303	15299005 24310304	15302006 24310303
16111005 23530263	16317001 23520263	16335004 23530263
17149012 22690227	17257007 22720227	17289006 22740227
18131006 21920195	18053001 21900195	18538001 21930195
19572003 21230166	19463013 21350167	19494012 21340166
20443012 20650141	20479017 20660142	20478018 20610142
21435009 20160120	21469012 20170120	21461015 20140120
22151004 20150101	22251004 20310102	22335005 20420101
23135007 20610086	23106011 20750086	23118007 20790086
24171012 21150073	24164015 20980073	24213016 21220073
25168016 21200062	25194014 21310062	25206013 21410062
26151026 21450053	26188022 21650053	26183014 21610053

TABLE 5AIMING AND T-TIME COMPUTER MET MESSAGES
22 July 1981

NW-30 1330 MDT
METCM1329065
221950123878
00089003 31140878
01197006 30960868
02221005 30750844
03293007 30340807
04613003 29840763
05014004 29390720
06261001 28920679
07263008 28450640
08214016 28020603
09213021 27580567
10236017 27170533
11378009 26910500
12439007 26410454
13356006 25710399
14290007 24990349
15288007 24360304
16305009 23590264
17283012 22750227
18237004 21910194
19507013 21380166
20513015 20560141
21473011 20090119
22506004 20290101
23212013 20810086
24273016 20930073
25162009 21330062
26151020 21650053

JALLEN 1430 MDT
METCM1332065
222050124875
00000000 31200875
01336007 31110865
02279005 30910842
03376003 30520805
04391006 30030761
05290007 29550719
06258008 29090678
07211011 28600639
08215013 28120602
09213018 27660566
10275013 27260532
11445006 26920500
12397004 26470454
13333007 25750399
14324006 25020349
15331007 24400304
16358009 23670264
17335010 22850228
18409005 22090196
19506016 21360167
20473016 20620142
21451008 20210121
22483002 20390102
23283013 20830087
24314006 21060074
25113013 21530063
26150024 21670054

STATION ALTITUDE 3989.00 FEET MSL
22 JULY 81
ASCENSION NO. 471 0730 HRS MGT

SIGNIFICANT LEVEL DATA
2030020471
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 6

PRESSURE GEOMETRIC		TEMPERATURE		RFL. HUM. PERCENT
ALTITUDE	AIR	DEWPOINT		
MILLIBARS MSL FEET	DEGREES	CENTIGRADE		
879.6	3989.0	20.6	7.9	44.0
865.4	4455.7	26.4	9.3	34.0
850.0	4975.8	26.6	8.6	32.0
796.8	6842.2	24.6	6.4	31.0
700.0	10511.7	15.5	1.6	39.0
631.0	13370.1	8.5	-1.6	49.0
603.4	14580.6	6.0	-9.4	32.0
529.1	18055.3	-4.1	-11.5	56.0
523.2	18346.0	-4.9	-13.7	50.0
515.0	18755.2	-4.1	-20.7	26.0
500.0	19520.3	-5.2	-21.7	26.0
474.2	20885.6	-6.5	-21.9	28.0
413.4	24357.6	-15.0	-25.5	40.0
400.0	25175.3	-16.6	-28.7	34.0
351.2	28345.9	-24.3	-36.8	30.0
344.6	28801.1	-24.3	-37.9	27.0
300.0	32081.6	-31.2	-44.6	25.0
264.4	34991.5	-37.5	-49.8	26.0
250.0	36256.9	-40.4		
225.6	38531.1	-46.9		
200.0	41125.2	-53.1		
185.2	42749.4	-55.5		
166.4	44968.4	-61.4		
157.4	46104.8	-61.6		
150.0	47082.9	-64.1		
132.2	49603.1	-69.1		
110.5	53094.8	-74.1		
100.0	55030.1	-71.1		
92.4	56576.5	-70.4		
74.0	61040.4	-60.1		
70.0	62182.0	-61.4		
65.4	63571.6	-62.2		
55.0	67141.5	-58.0		
50.0	69124.1	-58.4		
35.8	76151.0	-53.4		
30.0	79955.4	-48.5		
24.2	84670.1	-44.9		
20.0	88880.0	-45.8		
17.0	92467.4	-45.3		
14.6	95853.9	-42.3		

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

UPPER AIR DATA
2030020471
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
22 JULY 81 0700 HRS MDT
ASCENSION NO. 471

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	879.6	20.6	7.9	44.0	1038.3	669.2	.0	.0	1.000278
4000.0	879.3	20.7	8.0	43.8	1037.4	669.4	129.8	.0	1.000278
4500.0	864.1	26.4	9.2	33.8	999.7	676.0	129.8	.5	1.000272
5000.0	849.3	26.6	8.5	32.0	982.2	676.1	129.8	1.0	1.000266
5500.0	834.7	26.0	7.9	31.7	967.2	675.5	129.8	1.5	1.000261
6000.0	820.4	25.5	7.4	31.5	952.4	674.9	141.3	1.8	1.000256
6500.0	806.3	25.0	6.8	31.2	937.8	674.2	169.4	2.2	1.000251
7000.0	792.4	24.2	6.2	31.3	924.1	673.3	184.4	2.4	1.000247
7500.0	778.5	23.0	5.6	32.4	911.8	671.9	197.3	2.1	1.000243
8000.0	764.9	21.7	5.0	33.5	899.7	670.4	201.7	.9	1.000239
8500.0	751.5	20.5	4.4	34.6	887.8	669.0	23.6	.8	1.000235
9000.0	738.4	19.2	3.7	35.7	876.1	667.5	28.8	2.2	1.000231
9500.0	725.4	18.0	3.0	36.8	864.5	666.1	29.3	3.5	1.000227
10000.0	712.8	16.8	2.3	37.9	853.2	664.6	24.0	4.7	1.000223
10500.0	700.3	15.5	1.6	39.0	841.9	663.1	27.4	6.2	1.000219
11000.0	687.7	14.3	1.1	40.7	830.4	661.7	36.7	8.2	1.000216
11500.0	675.3	13.1	.6	42.5	819.0	660.3	46.8	10.1	1.000212
12000.0	663.2	11.9	.1	44.2	807.8	658.8	56.3	12.1	1.000209
12500.0	651.3	10.6	-.5	46.0	796.7	657.4	65.6	13.4	1.000205
13000.0	639.5	9.4	-1.1	47.7	785.9	656.0	74.0	14.7	1.000202
13500.0	628.0	8.2	-2.3	47.2	775.1	654.5	81.8	15.9	1.000197
14000.0	616.5	7.2	-5.4	40.2	764.1	653.1	88.6	17.2	1.000190
14500.0	605.2	6.2	-8.8	33.1	753.3	651.7	94.8	18.6	1.000183
15000.0	593.9	4.8	-9.4	34.9	743.0	650.1	98.8	19.7	1.000180
15500.0	582.8	3.3	-9.5	38.4	732.9	648.4	101.0	20.6	1.000178
16000.0	571.9	1.9	-9.7	41.8	723.0	646.7	101.1	21.2	1.000176
16500.0	561.2	.4	-10.0	45.3	713.2	645.0	99.6	21.6	1.000173
17000.0	550.6	-1.0	-10.4	48.7	703.6	643.3	99.3	22.0	1.000171
17500.0	540.3	-2.5	-10.9	52.2	694.2	641.5	100.1	22.3	1.000168
18000.0	530.2	-3.9	-11.5	55.6	684.9	639.8	105.0	21.8	1.000166
18500.0	520.1	-4.6	-15.8	41.0	673.8	638.8	114.6	20.8	1.000159
19000.0	510.2	-4.5	-21.0	26.0	660.9	638.9	129.2	19.7	1.000153
19500.0	500.4	-5.2	-21.6	26.0	650.0	638.0	147.6	19.9	1.000150
20000.0	490.8	-5.7	-21.7	26.7	638.6	637.4	162.5	19.5	1.000148
20500.0	481.3	-6.1	-21.9	27.4	627.5	636.9	176.3	19.8	1.000145
21000.0	472.1	-6.8	-22.0	28.4	616.9	636.1	182.7	20.1	1.000143
21500.0	462.8	-8.0	-22.4	30.1	607.6	634.6	187.2	20.3	1.000141
22000.0	453.8	-9.2	-22.9	31.9	598.5	633.2	187.4	19.9	1.000139
22500.0	444.9	-10.5	-23.4	33.6	589.5	631.7	188.4	18.7	1.000136
23000.0	436.2	-11.7	-23.9	35.3	580.7	630.2	190.3	16.7	1.000134

UPPER AIR DATA
2030020471
WHITE SANDS
TABLE 7 CONT

STATION ALTITUDE 3989.00 FEET MSL
22 JULY 81 0730 HRS MDT
ASCENSION NO. 471

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES(TN))	SPEED KNOTS	INDEX OF REFRACTION
23500.0	427.7	-12.9	-24.5	37.0	572.0	628.7	191.5	15.9	1.000132
24000.0	419.3	-14.1	-25.1	38.8	563.5	627.2	192.0	15.7	1.000130
24500.0	411.0	-15.3	-26.1	39.0	554.9	625.8	192.1	14.9	1.000128
25000.0	402.8	-16.3	-28.0	35.3	546.0	624.6	191.7	13.7	1.000125
25500.0	394.7	-17.4	-29.6	33.6	537.3	623.2	193.3	12.0	1.000123
26000.0	386.7	-18.6	-30.8	32.0	529.0	621.7	197.0	9.9	1.000121
26500.0	378.8	-19.8	-32.1	32.3	520.7	620.2	204.4	8.8	1.000118
27000.0	371.1	-21.0	-33.4	31.7	512.6	618.7	214.1	8.5	1.000116
27500.0	363.6	-22.2	-34.7	31.1	504.7	617.2	216.3	7.7	1.000114
28000.0	356.2	-23.5	-36.0	30.4	496.8	615.7	213.3	6.5	1.000112
28500.0	349.0	-24.3	-37.2	29.0	488.4	614.6	200.4	5.5	1.000110
29000.0	341.7	-24.7	-38.3	26.9	479.1	614.1	178.4	5.1	1.000108
29500.0	334.6	-25.8	-39.3	26.6	471.0	612.8	164.8	5.3	1.000106
30000.0	327.6	-26.8	-40.3	26.3	463.2	611.5	156.2	5.7	1.000104
30500.0	320.7	-27.9	-41.4	26.0	455.4	610.2	151.5	6.4	1.000102
31000.0	314.0	-28.9	-42.4	25.7	447.9	608.9	148.9	7.2	1.000101
31500.0	307.5	-30.0	-43.4	25.4	440.4	607.6	148.8	7.5	1.000099
32000.0	301.0	-31.0	-44.5	25.0	433.1	606.2	149.6	7.7	1.000097
32500.0	294.6	-32.1	-45.4	25.1	425.7	604.9	147.0	6.4	1.000095
33000.0	288.3	-33.2	-46.3	25.3	418.5	603.5	139.5	4.4	1.000094
33500.0	282.1	-34.3	-47.1	25.5	411.3	602.2	112.7	2.6	1.000092
34000.0	276.0	-35.4	-48.0	25.7	404.3	600.8	55.6	2.6	1.000091
34500.0	270.1	-36.4	-48.9	25.8	397.5	599.4	41.9	3.6	1.000089
35000.0	264.3	-37.5	-49.9	25.8**	390.7	598.0	44.0	4.4	1.000087
35500.0	258.5	-38.7	-51.1	15.6**	384.0	596.6	58.1	5.3	1.000086
36000.0	252.9	-39.8	-64.3	5.3**	377.5	595.1	73.9	6.8	1.000084
36500.0	247.3	-41.1			371.2	593.5	78.1	8.3	1.000083
37000.0	241.8	-42.5			365.2	591.6	77.9	9.7	1.000081
37500.0	236.4	-44.0			359.2	589.8	78.5	10.9	1.000080
38000.0	231.1	-45.4			353.4	588.0	80.8	11.7	1.000079
38500.0	225.9	-46.8			347.7	586.1	82.8	12.4	1.000077
39000.0	220.7	-48.0			341.6	584.5	86.9	12.6	1.000076
39500.0	215.7	-49.2			335.5	583.0	91.3	12.8	1.000075
40000.0	210.7	-50.4			329.6	581.4	93.7	12.2	1.000073
40500.0	205.9	-51.6			323.8	579.9	94.8	11.0	1.000072
41000.0	201.2	-52.8			318.0	578.3	92.8	9.3	1.000071
41500.0	196.5	-53.7			311.8	577.2	82.4	6.9	1.000069
42000.0	191.9	-54.4			305.6	576.2	61.6	5.0	1.000068
42500.0	187.4	-55.1			299.4	575.2	26.1	4.7	1.000067
43000.0	183.0	-56.2			293.8	573.9	357.6	6.0	1.000065

** AT LAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
22 JULY 81
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UPPER AIR DATA
2030020471
WHITE SANDS
TABLE 7 CONT

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
43500.0	178.6	-57.5			288.5	572.1	354.1	6.3	1.000064
44000.0	174.4	-58.8			283.4	570.3	354.7	6.2	1.000063
44500.0	170.2	-60.2			278.4	568.6	349.0	5.3	1.000062
45000.0	166.1	-61.4			273.3	566.9	325.6	3.8	1.000061
45500.0	162.1	-61.5			266.8	566.8	287.8	3.5	1.000059
46000.0	158.2	-61.6			260.5	566.7	251.1	5.3	1.000058
46500.0	154.4	-62.6			255.4	565.3	236.4	8.2	1.000057
47000.0	150.6	-63.9			250.7	563.6	232.5	10.1	1.000056
47500.0	146.9	-64.9			245.8	562.2	232.9	10.6	1.000055
48000.0	143.3	-65.9			240.8	560.8	233.3	11.1	1.000054
48500.0	139.7	-66.9			236.0	559.5	249.0	11.7	1.000053
49000.0	136.3	-67.9			231.3	558.1	262.7	13.1	1.000052
49500.0	132.9	-68.9			226.6	556.8	269.1	13.8	1.000050
50000.0	129.5	-69.7			221.8	555.7	269.1	12.7	1.000049
50500.0	126.2	-70.4			216.9	554.7	269.1	11.7	1.000048
51000.0	123.0	-71.1			212.2	553.8	250.1	9.9	1.000047
51500.0	119.9	-71.8			207.5	552.8	226.3	9.5	1.000046
52000.0	116.9	-72.5			203.0	551.8	226.2	9.4	1.000045
52500.0	113.9	-73.2			198.5	550.8	233.6	9.3	1.000044
53000.0	111.0	-74.0			194.2	549.8	238.9	7.5	1.000043
53500.0	108.2	-73.5			188.8	550.5	246.1	4.3	1.000042
54000.0	105.5	-72.7			183.3	551.6	246.1	1.4	1.000041
54500.0	102.8	-71.9			177.9	552.6	97.0	1.2	1.000040
55000.0	100.2	-71.1			172.7	553.7	93.4	3.8	1.000038
55500.0	97.6	-70.9			168.1	554.1	91.2	4.6	1.000037
56000.0	95.2	-70.7			163.7	554.4	89.1	5.0	1.000036
56500.0	92.8	-70.4			159.4	554.7	84.3	5.8	1.000035
57000.0	90.5	-69.4			154.7	556.1	76.7	7.4	1.000034
57500.0	88.3	-68.3			150.1	557.6	71.8	9.1	1.000033
58000.0	86.1	-67.1			145.5	559.2	72.8	10.1	1.000032
58500.0	84.0	-66.0			141.2	560.8	74.3	11.0	1.000031
59000.0	81.9	-64.8			137.0	562.3	74.5	11.7	1.000031
59500.0	79.9	-63.7			132.9	563.9	73.0	12.0	1.000030
60000.0	77.9	-62.5			128.9	565.4	71.6	12.4	1.000029
60500.0	76.0	-61.3			125.0	567.0	80.7	12.5	1.000028
61000.0	74.1	-60.2			121.3	568.5	90.6	12.8	1.000027
61500.0	72.4	-60.6			118.6	567.9	99.7	13.2	1.000026
62000.0	70.6	-61.2			116.1	567.2	109.1	12.9	1.000026
62500.0	68.9	-61.6			113.5	566.7	118.6	13.0	1.000025
63000.0	67.3	-61.9			110.9	566.3	116.9	13.2	1.000025

UPPER AIR DATA
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GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 7 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	65.6	-62.2			108.4	565.9	109.4	13.5	1.000024
64000.0	64.1	-61.7			105.5	566.5	102.4	13.9	1.000023
64500.0	62.5	-61.1			102.7	567.3	96.4	15.9	1.000023
65000.0	61.0	-60.5			100.0	568.1	91.7	18.0	1.000022
65500.0	59.6	-59.9			97.3	568.9	88.0	19.9	1.000022
66000.0	58.1	-59.3			94.7	569.6	85.0	21.1	1.000021
66500.0	56.7	-58.8			92.2	570.4	82.2	22.4	1.000021
67000.0	55.4	-58.2			89.7	571.2	82.0	23.7	1.000020
67500.0	54.1	-58.1			87.6	571.3	83.5	25.0	1.000019
68000.0	52.8	-58.2			85.5	571.2	84.9	26.3	1.000019
68500.0	51.5	-58.3			83.5	571.1	84.1	27.2	1.000019
69000.0	50.3	-58.4			81.6	570.9	82.7	28.0	1.000018
69500.0	49.1	-58.1			79.6	571.3	81.5	28.8	1.000018
70000.0	48.0	-57.8			77.6	571.7	81.6	29.8	1.000017
70500.0	46.8	-57.4			75.6	572.2	81.6	30.8	1.000017
71000.0	45.7	-57.1			73.7	572.7	82.2	31.6	1.000016
71500.0	44.7	-56.7			71.9	573.1	84.6	31.9	1.000016
72000.0	43.6	-56.4			70.1	573.6	86.8	32.2	1.000016
72500.0	42.6	-56.0			68.3	574.1	88.4	32.7	1.000015
73000.0	41.6	-55.6			66.6	574.6	89.1	33.3	1.000015
73500.0	40.6	-55.3			64.9	575.0	89.8	34.0	1.000014
74000.0	39.7	-54.9			63.3	575.5	90.6	34.6	1.000014
74500.0	38.7	-54.6			61.7	576.0	91.4	35.0	1.000014
75000.0	37.8	-54.2			60.2	576.4	92.2	35.5	1.000013
75500.0	36.9	-53.9			58.7	576.9	92.3	34.3	1.000013
76000.0	36.1	-53.5			57.2	577.4	92.2	32.8	1.000013
76500.0	35.2	-53.0			55.7	578.1	92.2	31.3	1.000012
77000.0	34.4	-52.3			54.3	578.9	92.8	30.8	1.000012
77500.0	33.6	-51.7			52.9	579.8	93.5	30.4	1.000012
78000.0	32.9	-51.0			51.5	580.6	94.2	30.0	1.000011
78500.0	32.1	-50.4			50.2	581.5	95.1	30.1	1.000011
79000.0	31.4	-49.7			48.9	582.3	95.9	30.1	1.000011
79500.0	30.6	-49.1			47.6	583.2	96.8	30.2	1.000011
80000.0	29.9	-48.5			46.4	584.0	96.0	29.7	1.000010
80500.0	29.3	-48.1			45.3	584.5	95.1	29.2	1.000010
81000.0	28.6	-47.7			44.2	584.9	94.1	28.7	1.000010
81500.0	28.0	-47.3			43.1	585.4	93.0	28.1	1.000010
82000.0	27.3	-46.9			42.1	585.9	92.0	27.5	1.000009
82500.0	26.7	-46.6			41.1	586.4	90.8	27.0	1.000009
83000.0	26.1	-46.2			40.1	586.9	90.7	27.0	1.000009

STATION ALTITUDE 3989.00 FEET MSL
 22 JULY 81 0730 HRS MDT
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UPLR AIR DATA
 2030020471
 WHITE SANDS

GFODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 7 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
83500.0	25.5	-45.8			39.1	587.4	90.8	27.1	1.000009
84000.0	25.0	-45.4			38.2	587.9	90.9	27.3	1.000008
84500.0	24.4	-45.0			37.2	588.4	91.9	27.6	1.000008
85000.0	23.8	-45.0			36.4	588.5	93.0	27.9	1.000008
85500.0	23.3	-45.1			35.6	588.3	94.1	28.2	1.000008
86000.0	22.8	-45.2			34.8	588.2	92.9	28.7	1.000008
86500.0	22.3	-45.3			34.1	588.1	91.4	29.2	1.000008
87000.0	21.8	-45.4			33.3	587.9	89.9	29.8	1.000007
87500.0	21.3	-45.5			32.6	587.8	87.9	31.3	1.000007
88000.0	20.8	-45.6			31.9	587.7	86.0	33.1	1.000007
88500.0	20.3	-45.7			31.2	587.5	84.3	34.8	1.000007
89000.0	19.9	-45.8			30.5	587.4	85.0	36.1	1.000007
89500.0	19.4	-45.7			29.8	587.5	85.8	37.4	1.000007
90000.0	19.0	-45.6			29.1	587.6	86.6	38.6	1.000006
90500.0	18.6	-45.6			28.4	587.7	88.6	38.8	1.000006
91000.0	18.2	-45.5			27.8	587.8	90.8	39.1	1.000006
91500.0	17.8	-45.4			27.2	587.9	92.9	39.3	1.000006
92000.0	17.4	-45.4			26.6	588.0	92.8	38.7	1.000006
92500.0	17.0	-45.3			26.0	588.1	92.7	38.1	1.000006
93000.0	16.6	-44.8			25.3	588.7	92.5	37.4	1.000006
93500.0	16.2	-44.4			24.7	589.2			1.000005
94000.0	15.9	-43.9			24.1	589.8			1.000005
94500.0	15.5	-43.5			23.5	590.4			1.000005
95000.0	15.2	-43.1			23.0	590.9			1.000005
95500.0	14.8	-42.6			22.4	591.5			1.000005

STATION ALTITUDE 3989.00 FEET MSL
22 JULY 81 0730 HRS MDT
ASCENSION NO. 471

MANDATORY LEVELS
2030020471
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4972.	26.6	8.6	32.	129.8	1.0
800.0	6721.	24.7	6.5	31.	178.1	2.5
750.0	8564.	20.3	4.3	35.	23.7	1.0
700.0	10501.	15.5	1.6	39.	27.5	6.2
650.0	12546.	10.5	-6	46.	66.6	13.5
600.0	14715.	5.6	-9.4	33.	97.3	19.2
550.0	17022.	-1.1	-10.5	49.	99.4	22.0
500.0	19492.	-5.2	-21.7	26.	147.9	19.9
450.0	22190.	-9.7	-23.1	33.	187.5	19.7
400.0	25132.	-16.6	-28.7	34.	191.6	13.3
350.0	28375.	-24.3	-37.0	29.	203.7	5.6
300.0	32016.	-31.2	-44.6	25.	149.7	7.7
250.0	36176.	-40.4			78.2	7.6
200.0	41024.	-53.1			91.1	8.8
175.0	43817.	-58.6			354.6	6.2
150.0	46953.	-64.1			232.6	10.1
125.0	50555.	-70.7			263.2	10.9
100.0	54858.	-71.1			93.4	3.8
80.0	59249.	-63.7			73.3	12.0
70.0	61966.	-61.4			111.9	12.9
60.0	65102.	-60.1			89.4	19.3
50.0	68861.	-58.4			82.5	24.1
40.0	73502.	-55.1			90.2	34.3
30.0	79610.	-48.5			96.2	29.8
25.0	83573.	-45.4			90.9	27.2
20.0	88459.	-45.8			84.7	35.7
15.0	94769.	-42.8				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81
ASCENSION NO. 65

SIGNIFICANT LEVEL DATA
2030220065
NW 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
879.4	4010.4	30.4	5.6	21.0
872.6	4237.1	28.2	6.9	26.0
850.0	5001.0	27.7	10.9	35.0
784.0	7339.9	24.4	7.1	33.0
700.0	10557.6	16.8	2.8	39.0
643.8	12876.9	10.5	.5	50.0
565.0	16392.9	1.0	-9.3	46.0
539.8	17593.4	-2.0	-8.9	59.0
531.6	17993.1	-3.1	-10.6	56.0
515.2	18808.4	-3.7	-20.8	25.0
500.0	19584.8	-4.7	-23.1	22.0
491.0	20054.4	-5.1	-24.0	21.0
436.8	23038.4	-12.0	-23.4	38.0
400.0	25235.2	-16.6	-29.4	32.0
385.4	26152.1	-18.2	-31.5	30.0
357.6	27975.7	-22.9	-35.6	30.0
350.6	28453.1	-22.5	-35.9	28.0
324.0	30343.3	-27.0	-41.0	25.0
311.0	31312.9	-28.3	-42.1	25.0
300.0	32159.3	-30.6	-44.1	25.0
273.8	34272.3	-36.3	-48.1	28.0
262.0	35275.3	-38.0	-49.6	28.0
250.0	36332.8	-40.7		
200.0	41204.7	-53.1		
174.6	44049.3	-59.3		
165.8	45118.9	-58.6		
150.0	47167.7	-64.0		
129.8	50042.3	-70.8		
122.4	51189.8	-70.8		
115.2	52369.3	-72.8		
105.2	54131.7	-71.8		
100.0	55123.6	-69.6		
89.8	57259.7	-65.9		
78.2	60038.6	-64.8		
70.0	62283.4	-62.4		
62.6	64570.3	-60.7		
57.4	66366.6	-57.4		
50.0	69256.9	-56.1		
45.0	71107.0	-54.5		
30.0	80159.9	-49.9		

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

SIGNIFICANT LEVEL DATA
 2030220065
 NW 30

TABLE 9 CON'T

STATION ALTITUDE 4010.40 FEET MSL
 22 JULY 81 1030 HRS MDT
 ASCENSION NO. 65

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	RFL.HUM. PERCENT
26.8 82616.3		-46.9

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81 1030 HRS MDT
ASCENSION NO. 65

UPPER AIR DATA
2030220065
NW 30

GEODETIC COORDINATES
32.88497 LAT UEG
106.49714 LON DEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (TN) SPEED KNOTS	INDEX OF REFRACTION
4010.4	879.4	30.4	21.0	1005.3	680.1	320.0	1.000262
4500.0	864.8	28.0	29.1	995.4	677.7	317.4	1.000268
5000.0	850.0	27.7	35.0	978.6	677.7	298.3	1.000273
5500.0	835.5	27.0	34.6	964.3	676.8	154.4	1.000267
6000.0	821.2	26.3	34.1	950.2	676.0	145.5	1.000261
6500.0	807.1	25.6	33.7	936.3	675.1	211.4	1.000256
7000.0	793.3	24.9	33.3	922.6	674.2	264.6	1.000250
7500.0	779.6	24.0	33.3	909.5	673.2	318.6	1.000245
8000.0	766.0	22.8	34.2	897.3	671.8	335.2	1.000241
8500.0	752.6	21.7	35.2	885.3	670.4	346.8	1.000237
9000.0	739.5	20.5	36.1	873.4	669.1	353.3	1.000233
9500.0	726.6	19.3	37.0	861.8	667.7	359.4	1.000229
10000.0	713.9	18.1	38.0	850.3	666.3	7.2	1.000225
10500.0	701.4	16.9	38.9	838.9	664.9	14.1	1.000221
11000.0	688.9	15.6	41.1	827.8	663.3	20.1	1.000218
11500.0	676.6	14.2	43.5	816.9	661.7	29.3	1.000214
12000.0	664.5	12.9	45.8	806.2	660.2	41.2	1.000211
12500.0	652.6	11.5	48.2	795.6	658.6	65.8	1.000208
13000.0	640.9	10.2	49.9	785.1	656.9	89.7	1.000204
13500.0	629.1	8.8	49.3	774.6	655.3	107.7	1.000199
14000.0	617.5	7.5	48.7	764.2	653.6	115.8	1.000195
14500.0	606.1	6.1	48.2	754.0	652.0	120.2	1.000190
15000.0	595.0	4.8	47.6	743.9	650.3	121.4	1.000186
15500.0	584.0	3.4	47.0	733.9	648.6	122.0	1.000182
16000.0	573.3	2.1	46.4	724.1	647.0	121.6	1.000178
16500.0	562.7	.7	47.2	714.3	645.4	119.8	1.000174
17000.0	552.1	-0.5	52.6	704.0	643.9	117.6	1.000173
17500.0	541.7	-1.8	58.0	693.9	642.5	118.7	1.000171
18000.0	531.5	-3.1	55.7	684.3	640.8	121.6	1.000167
18500.0	521.3	-3.5	36.7	672.6	640.2	132.1	1.000159
19000.0	511.4	-3.9	24.3	661.3	639.5	145.9	1.000153
19500.0	501.6	-4.6	22.3	650.2	638.7	166.6	1.000150
20000.0	492.0	-5.1	21.1	638.9	638.1	184.3	1.000147
20500.0	482.5	-6.1	23.5	629.0	636.8	200.1	1.000145
21000.0	473.1	-7.3	26.4	619.5	635.5	206.6	1.000143
21500.0	464.0	-8.4	29.2	610.1	634.1	212.7	1.000141
22000.0	454.9	-9.6	32.1	600.9	632.7	213.4	1.000139
22500.0	446.1	-10.8	34.9	591.8	631.3	214.5	1.000137
23000.0	437.5	-11.9	37.8	582.9	629.9	218.3	1.000135
23500.0	428.8	-13.0	36.7	573.7	628.6	220.7	1.000132

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81
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UPPER AIR DATA
2030220065
NW 30
TABLE 10 CONT

GEODETTIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES (TN)	SPEED KNOTS	
24000.0	420.3	-14.0	-26.0	35.4	564.6	627.3	220.2	11.1	1.000130
24500.0	412.0	-15.1	-27.3	34.0	555.7	626.0	218.7	10.8	1.000127
25000.0	403.8	-16.1	-28.7	32.6	547.0	624.8	214.7	9.1	1.000125
25500.0	395.7	-17.1	-30.0	31.4	538.1	623.6	213.5	6.8	1.000123
26000.0	387.8	-17.9	-31.1	30.3	529.1	622.5	219.1	3.8	1.000120
26500.0	379.9	-19.1	-32.2	30.0	520.8	621.1	240.2	2.2	1.000118
27000.0	372.2	-20.4	-33.4	30.0	512.8	619.5	273.4	2.1	1.000116
27500.0	364.7	-21.7	-34.5	30.0	505.0	617.9	259.8	1.5	1.000114
28000.0	357.2	-22.9	-35.6	29.9	497.1	616.4	193.7	1.7	1.000112
28500.0	349.9	-22.6	-36.1	27.9	486.4	616.7	160.6	3.4	1.000110
29000.0	342.7	-23.8	-37.4	27.1	478.6	615.3	149.8	5.8	1.000108
29500.0	335.6	-25.0	-38.7	26.3	471.0	613.8	149.1	7.3	1.000106
30000.0	328.7	-26.2	-40.1	25.5	463.5	612.3	151.4	8.2	1.000104
30500.0	321.9	-27.2	-41.2	25.0	455.8	611.0	154.6	8.3	1.000103
31000.0	315.1	-27.9	-41.7	25.0	447.5	610.2	159.1	7.9	1.000101
31500.0	308.5	-28.8	-42.5	25.0	439.8	609.0	164.5	6.7	1.000099
32000.0	302.0	-30.2	-43.7	25.0	433.0	607.3	175.1	4.4	1.000097
32500.0	295.6	-31.5	-44.7	25.5	426.1	605.6	196.9	2.5	1.000096
33000.0	289.3	-32.9	-45.7	26.2	419.4	603.9	232.4	1.3	1.000094
33500.0	283.1	-34.2	-46.6	26.9	412.7	602.2	289.0	1.3	1.000093
34000.0	277.0	-35.6	-47.6	27.6	406.2	600.5	288.3	1.0	1.000091
34500.0	271.1	-36.7	-48.5	28.0	399.3	599.1	279.9	.6	1.000089
35000.0	265.2	-37.5	-49.2	28.0	392.0	598.0	193.3	.8	1.000088
35500.0	259.4	-38.6	-52.1	22.0**	385.2	596.7	171.4	1.7	1.000086
36000.0	253.7	-39.9	-60.5	8.8**	378.8	595.1	155.1	3.3	1.000084
36500.0	248.1	-41.1			372.5	593.4	149.8	5.0	1.000083
37000.0	242.5	-42.4			366.1	591.8	148.1	6.3	1.000082
37500.0	237.0	-43.7			359.8	590.2	147.0	7.6	1.000080
38000.0	231.6	-44.9			353.6	588.5	147.0	7.6	1.000079
38500.0	226.4	-46.2			347.5	586.9	147.1	7.5	1.000077
39000.0	221.3	-47.5			341.6	585.2	144.6	6.1	1.000076
39500.0	216.2	-48.8			335.7	583.6	139.7	4.5	1.000075
40000.0	211.3	-50.0			330.0	581.9	129.7	3.6	1.000073
40500.0	206.6	-51.3			324.4	580.3	114.0	2.9	1.000072
41000.0	201.9	-52.6			318.9	578.6	91.4	2.4	1.000071
41500.0	197.2	-53.7			313.1	577.1	64.3	2.4	1.000070
42000.0	192.5	-54.8			307.2	575.6	26.9	2.1	1.000068
42500.0	188.0	-55.9			301.5	574.2	335.6	2.7	1.000067
43000.0	183.6	-57.0			295.9	572.7	302.8	3.9	1.000066
43500.0	179.2	-58.1			290.4	571.3	278.1	5.7	1.000065

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81 1030 HRS MDT
ASCENSION 110. 65

UPPER AIR DATA
2030220065
NW 30

TABLE 10 CONT

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
44000.0	175.0	-59.2		285.0	569.8	266.3	8.0	1.000063
44500.0	170.8	-59.0		277.9	570.1	260.3	10.6	1.000062
45000.0	166.8	-58.7		270.9	570.5	257.6	13.0	1.000060
45500.0	162.7	-59.6		265.5	569.3	258.9	14.9	1.000059
46000.0	158.8	-60.9		260.7	567.5	259.9	16.7	1.000058
46500.0	155.0	-62.2		256.0	565.8	261.9	17.7	1.000057
47000.0	151.2	-63.6		251.4	564.0	263.7	18.7	1.000056
47500.0	147.5	-64.8		246.6	562.4	266.3	19.0	1.000055
48000.0	143.8	-66.0		241.9	560.8	269.5	18.7	1.000054
48500.0	140.3	-67.2		237.2	559.1	273.1	18.2	1.000053
49000.0	136.8	-68.3		232.7	557.5	277.8	16.9	1.000052
49500.0	133.4	-69.5		228.2	555.9	283.2	15.8	1.000051
50000.0	130.1	-70.7		223.8	554.3	278.2	13.6	1.000050
50500.0	126.8	-70.8		218.3	554.2	270.9	11.6	1.000049
51000.0	123.6	-70.8		212.8	554.2	262.7	11.0	1.000047
51500.0	120.5	-71.3		207.9	553.5	254.7	10.9	1.000046
52000.0	117.4	-72.2		203.5	552.3	249.4	10.6	1.000045
52500.0	114.4	-72.7		198.9	551.5	249.4	9.7	1.000044
53000.0	111.5	-72.4		193.6	551.9	249.5	8.8	1.000043
53500.0	108.7	-72.2		188.4	552.3	248.1	6.5	1.000042
54000.0	105.9	-71.9		183.3	552.7	244.1	4.0	1.000041
54500.0	103.2	-71.0		177.9	553.9	231.6	1.5	1.000040
55000.0	100.6	-69.9		172.5	555.4	75.4	.4	1.000038
55500.0	98.1	-68.9		167.4	556.7	59.6	2.3	1.000037
56000.0	95.7	-68.1		162.5	557.9	60.2	3.9	1.000036
56500.0	93.3	-67.2		157.8	559.1	63.8	5.1	1.000035
57000.0	91.0	-66.3		153.3	560.2	66.1	6.2	1.000034
57500.0	88.7	-65.8		149.1	561.0	69.3	8.0	1.000033
58000.0	86.6	-65.6		145.3	561.2	72.4	10.5	1.000032
58500.0	84.4	-65.4		141.6	561.5	74.3	13.0	1.000032
59000.0	82.3	-65.2		138.0	561.8	73.1	14.4	1.000031
59500.0	80.3	-65.0		134.4	562.0	71.7	15.7	1.000030
60000.0	78.4	-64.8		131.0	562.3	73.0	16.6	1.000029
60500.0	76.4	-64.3		127.5	563.0	81.1	16.4	1.000028
61000.0	74.6	-63.8		124.1	563.7	89.2	16.5	1.000027
61500.0	72.8	-63.2		120.7	564.4	95.4	16.2	1.000026
62000.0	71.0	-62.7		117.5	565.2	100.8	15.4	1.000025
62500.0	69.3	-62.2		114.4	565.8	106.8	14.8	1.000024
63000.0	67.6	-61.9		111.4	566.3	106.9	13.9	1.000023
63500.0	66.0	-61.5		108.6	566.8	105.3	12.9	1.000022

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81 1030 HRS MDT
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UPPER AIR DATA
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GEODETRIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 10 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DEWPOINT DEGREES CENTIGRADE	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES (TN)	SPEED KNOTS	
64000.0	64.4	-61.1			105.8	567.3	103.5	11.9	1.000024
64500.0	62.8	-60.8			103.0	567.8	104.0	13.8	1.000023
65000.0	61.3	-59.9			100.2	568.9	104.5	15.6	1.000022
65500.0	59.9	-59.0			97.4	570.1	104.7	17.3	1.000022
66000.0	58.4	-58.1			94.6	571.3	103.3	17.2	1.000021
66500.0	57.0	-57.3			92.1	572.3	101.8	17.1	1.000021
67000.0	55.7	-57.1			89.8	572.6	100.5	17.1	1.000020
67500.0	54.4	-56.9			87.6	572.9	99.6	17.5	1.000020
68000.0	53.1	-56.7			85.4	573.2	98.7	17.9	1.000019
68500.0	51.8	-56.4			83.3	573.5	98.1	18.3	1.000019
69000.0	50.6	-56.2			81.3	573.8	99.0	19.3	1.000018
69500.0	49.4	-55.9			79.3	574.2	99.9	20.2	1.000018
70000.0	48.3	-55.5			77.2	574.8	100.4	21.3	1.000017
70500.0	47.1	-55.0			75.3	575.4	99.5	22.5	1.000017
71000.0	46.0	-54.6			73.4	575.9	98.7	23.8	1.000016
71500.0	45.0	-54.3			71.6	576.3	97.9	25.0	1.000016
72000.0	43.9	-54.0			69.8	576.7	96.3	25.4	1.000016
72500.0	42.9	-53.8			68.2	577.0	94.7	25.8	1.000015
73000.0	41.9	-53.5			66.5	577.3	93.2	26.2	1.000015
73500.0	41.0	-53.3			64.9	577.7	90.4	27.9	1.000014
74000.0	40.0	-53.0			63.3	578.0	87.9	29.7	1.000014
74500.0	39.1	-52.8			61.8	578.3	85.7	31.6	1.000014
75000.0	38.2	-52.5			60.3	578.7	86.8	34.0	1.000013
75500.0	37.3	-52.3			58.8	579.0	88.2	36.6	1.000013
76000.0	36.4	-52.0			57.4	579.3	89.4	39.1	1.000013
76500.0	35.6	-51.8			56.0	579.7	91.3	39.0	1.000012
77000.0	34.8	-51.5			54.7	580.0	93.5	38.2	1.000012
77500.0	34.0	-51.3			53.3	580.3	95.8	37.5	1.000012
78000.0	33.2	-51.0			52.0	580.7	96.7	35.9	1.000012
78500.0	32.4	-50.7			50.8	581.0	97.0	34.0	1.000011
79000.0	31.7	-50.5			49.6	581.3	97.3	32.0	1.000011
79500.0	30.9	-50.2			48.4	581.7	96.6	30.7	1.000011
80000.0	30.2	-50.0			47.2	582.0	95.3	29.7	1.000011
80500.0	29.5	-49.5			46.0	582.6	93.9	28.8	1.000010
81000.0	28.9	-48.9			44.8	583.4			1.000010
81500.0	28.2	-48.3			43.7	584.2			1.000010
82000.0	27.6	-47.7			42.6	585.0			1.000009
82500.0	26.9	-47.0			41.5	585.8			1.000009

STATION ALTITUDE 4010.40 FEET MSL
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MANDATORY LEVELS
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GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 11

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4998.	27.7	10.9	35.	298.5	.3	
800.0	6753.	25.2	8.0	33.	260.0	.2	
750.0	8601.	21.4	5.5	35.	348.1	4.6	
700.0	10547.	16.8	2.8	39.	14.8	6.4	
650.0	12601.	11.2	.8	49.	71.0	6.6	
600.0	14772.	5.4	-4.8	48.	120.9	15.5	
550.0	17081.	-.8	-9.0	54.	117.7	23.1	
500.0	19557.	-4.7	-23.1	22.	170.1	17.0	
450.0	22252.	-10.2	-23.2	34.	213.8	9.6	
400.0	25193.	-16.6	-29.4	32.	212.4	8.4	
350.0	28443.	-22.6	-36.0	28.	161.3	3.4	
300.0	32095.	-30.6	-44.1	25.	180.6	3.7	
250.0	36253.	-40.7			151.3	4.4	
200.0	41105.	-53.1			81.4	2.4	
175.0	43889.	-59.2			266.6	7.9	
150.0	47040.	-64.0			264.2	19.0	
125.0	50632.	-70.8			266.6	11.1	
100.0	54953.	-69.6			66.2	.8	
80.0	59383.	-65.0			71.5	15.9	
70.0	62070.	-62.4			103.8	15.1	
60.0	65211.	-59.1			104.8	17.2	
50.0	68996.	-56.1			99.4	19.7	
40.0	73688.	-53.0			88.2	29.5	
30.0	79816.	-49.9			95.0	29.5	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1130 HRS MDT
ASCENSION NO. 83

SIGNIFICANT LEVEL DATA
2030030083
JALLEN
TABLE 12

GEODETTIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
877.0 4051.0	31.6	9.2	25.0
872.2 4212.7	31.7	10.4	27.0
850.0 4970.7	29.9	10.5	30.0
828.7 5711.5	27.5	8.4	30.0
805.0 6553.9	26.8	7.8	30.0
700.0 10543.2	17.5	3.0	38.0
624.4 13703.6	8.7	-2.0	47.0
590.6 15207.2	4.8	-8.6	37.0
538.0 17677.5	-2.2	-9.5	57.0
524.6 18335.2	-3.5	-15.7	38.0
500.0 19581.9	-4.3	-23.8	20.0
460.6 21693.3	-8.3	-23.5	28.0
416.0 24266.4	-13.9	-29.2	26.0
400.0 25242.0	-16.4	-30.6	28.0
359.6 27846.0	-22.6	-36.0	28.0
357.6 27981.0	-21.4	-36.1	25.0
312.8 31188.7	-27.9	-43.4	21.0
300.0 32171.7	-30.5	-45.2	22.0
276.2 34085.2	-35.8	-47.4	29.0
264.2 35099.9	-36.9	-49.6	25.0
250.0 36349.7	-40.4		
200.0 41232.4	-52.4		
180.6 43381.5	-57.5		
166.8 45030.8	-59.0		
150.0 47199.0	-64.3		
115.0 52450.5	-72.8		
100.0 55186.9	-68.3		
82.4 59055.9	-64.5		
76.4 60594.0	-61.0		
70.0 62391.5	-60.4		
50.0 69385.6	-56.2		
45.2 71518.6	-53.4		
38.4 74981.1	-54.2		
30.0 80291.6	-47.9		
24.0 85192.7	-45.1		

STATION ALTITUDE 4051.00 FEET MSL
 22 JULY 81 1130 HRS MDT
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UPPER AIR DATA
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 JALLEN

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

TABLE 13

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
4051.0	877.0	31.6	9.2	25.0	997.5	681.8	.0	.0	1.000270
4500.0	863.7	31.0	10.4	28.1	983.7	681.3	334.5	.1	1.000271
5000.0	849.1	29.8	10.4	30.0	970.9	680.0	334.5	.2	1.000268
5500.0	834.7	28.2	9.0	30.0	960.0	678.0	334.5	.3	1.000262
6000.0	820.5	27.3	8.2	30.0	946.7	676.9	334.5	.4	1.000257
6500.0	806.5	26.8	7.8	30.0	931.9	676.4	352.2	1.5	1.000252
7000.0	792.5	25.8	7.3	30.9	919.1	675.2	356.9	3.3	1.000248
7500.0	778.8	24.6	6.8	31.9	906.8	673.8	356.5	3.0	1.000244
8000.0	765.2	23.4	6.2	32.9	894.6	672.5	358.2	3.1	1.000240
8500.0	751.9	22.3	5.6	33.9	882.7	671.1	3.6	5.2	1.000236
9000.0	738.9	21.1	5.0	34.9	870.9	669.8	7.0	7.1	1.000232
9500.0	726.1	19.9	4.4	35.9	859.2	668.4	9.7	8.9	1.000228
10000.0	713.4	18.8	3.8	36.9	847.8	667.0	19.5	8.3	1.000225
10500.0	701.1	17.6	3.1	37.9	836.5	665.7	32.9	7.5	1.000221
11000.0	688.5	16.2	2.4	39.3	825.6	664.0	47.6	6.6	1.000217
11500.0	676.2	14.8	1.6	40.7	814.8	662.4	66.2	6.0	1.000213
12000.0	664.1	13.4	.9	42.1	804.2	660.7	89.5	5.7	1.000209
12500.0	652.2	12.1	.1	43.6	793.8	659.1	109.7	6.3	1.000205
13000.0	640.5	10.7	-8	45.0	783.5	657.4	122.7	7.4	1.000202
13500.0	629.0	9.3	-1.6	46.4	773.4	655.8	131.4	8.6	1.000198
14000.0	617.6	7.9	-3.2	45.0	763.2	654.1	137.5	9.8	1.000193
14500.0	606.3	6.6	-5.4	41.7	753.0	652.5	137.3	11.7	1.000187
15000.0	595.1	5.3	-7.7	38.4	742.9	650.8	135.1	14.1	1.000182
15500.0	584.1	4.0	-8.6	39.4	732.8	649.2	131.9	16.2	1.000179
16000.0	573.2	2.6	-8.6	43.4	722.7	647.5	129.1	18.1	1.000177
16500.0	562.5	1.1	-8.8	47.5	712.9	645.9	127.1	19.2	1.000175
17000.0	551.9	-3	-9.0	51.5	703.2	644.2	127.3	20.3	1.000172
17500.0	541.6	-1.7	-9.4	55.6	693.6	642.5	131.2	21.5	1.000170
18000.0	531.4	-2.8	-12.4	47.7	683.7	641.1	138.3	21.2	1.000165
18500.0	521.3	-3.6	-16.6	35.6	672.9	640.0	149.6	19.9	1.000159
19000.0	511.3	-3.9	-19.5	28.4	661.0	639.5	162.5	16.9	1.000154
19500.0	501.6	-4.2	-23.1	21.2	649.3	639.1	180.7	14.3	1.000150
20000.0	491.9	-5.1	-23.7	21.6	638.9	638.1	197.2	12.4	1.000147
20500.0	482.5	-6.0	-23.5	23.5	628.8	636.9	213.3	11.8	1.000145
21000.0	473.2	-7.0	-23.5	25.4	618.9	635.8	222.4	11.6	1.000143
21500.0	464.1	-7.9	-23.5	27.3	609.1	634.7	224.6	11.6	1.000141
22000.0	455.0	-9.0	-24.2	27.8	599.6	633.4	220.6	11.5	1.000138
22500.0	446.1	-10.1	-25.3	27.4	590.3	632.1	218.3	11.4	1.000136
23000.0	437.4	-11.1	-26.4	27.0	581.2	630.8	216.9	11.1	1.000133
23500.0	428.8	-12.2	-27.5	26.6	572.2	629.5	217.5	11.0	1.000131

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 130 HRS MDT
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IPPR AIR DATA
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GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 13 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
24000.0	420.4	-13.3	26.2	563.4	628.1	219.1	10.8	1.000129
24500.0	412.1	-14.5	26.5	554.8	626.7	218.8	10.5	1.000127
25000.0	403.9	-15.8	27.5	546.5	625.1	216.9	10.0	1.000125
25500.0	395.8	-17.0	28.0	538.1	623.6	216.1	8.5	1.000122
26000.0	387.8	-18.2	28.0	529.7	622.2	216.6	6.2	1.000120
26500.0	379.9	-19.4	28.0	521.4	620.7	219.8	4.5	1.000118
27000.0	372.3	-20.6	28.0	513.3	619.2	227.0	3.2	1.000116
27500.0	364.7	-21.8	28.0	505.3	617.8	205.1	3.4	1.000114
28000.0	357.3	-21.4	25.0	494.4	618.2	184.9	4.5	1.000112
28500.0	349.9	-22.5	24.4	486.1	616.9	167.3	5.9	1.000110
29000.0	342.7	-23.5	23.7	478.0	615.7	157.2	7.6	1.000108
29500.0	335.6	-24.5	23.1	470.1	614.4	156.5	8.7	1.000106
30000.0	328.7	-25.5	22.5	462.3	613.1	156.6	9.5	1.000104
30500.0	321.9	-26.5	21.9	454.6	611.9	159.9	9.3	1.000102
31000.0	315.3	-27.5	21.2	447.1	610.6	163.3	8.9	1.000100
31500.0	308.7	-28.7	21.3	439.9	609.1	167.8	7.1	1.000099
32000.0	302.2	-30.0	21.8	433.0	607.5	174.8	5.4	1.000097
32500.0	295.8	-31.4	23.2	426.2	605.8	177.9	4.6	1.000096
33000.0	289.5	-32.8	25.0	419.5	604.0	182.1	3.8	1.000094
33500.0	283.3	-34.2	26.9	412.9	602.3	183.2	3.7	1.000093
34000.0	277.2	-35.6	28.7	406.4	600.5	184.3	3.6	1.000091
34500.0	271.2	-36.2	27.4	398.8	599.7	187.0	3.5	1.000089
35000.0	265.4	-36.8	25.4	391.1	599.0	190.1	3.3	1.000088
35500.0	259.6	-38.0	17.06*	384.6	597.4	191.3	3.4	1.000086
36000.0	253.9	-39.4	7.0**	378.4	595.6	191.9	3.6	1.000084
36500.0	248.3	-40.8		372.2	593.9	186.7	4.2	1.000083
37000.0	242.7	-42.0		365.7	592.3	181.9	5.1	1.000081
37500.0	237.2	-43.2		359.4	590.7	173.2	5.9	1.000080
38000.0	231.8	-44.5		353.2	589.1	165.9	6.8	1.000079
38500.0	226.6	-45.7		347.0	587.6	160.7	6.6	1.000077
39000.0	221.5	-46.9		341.0	586.0	155.0	6.1	1.000076
39500.0	216.5	-48.1		335.2	584.4	150.4	4.9	1.000075
40000.0	211.6	-49.4		329.4	582.8	144.5	3.4	1.000073
40500.0	206.8	-50.6		323.7	581.2	137.0	2.0	1.000072
41000.0	202.1	-51.8		318.2	579.6	126.8	.5	1.000071
41500.0	197.5	-53.0		312.5	578.0	123.7	.9	1.000070
42000.0	192.8	-54.2		306.9	576.4	107.6	2.1	1.000068
42500.0	188.3	-55.4		301.3	574.9	103.1	3.3	1.000067
43000.0	183.9	-56.6		295.8	573.3	98.6	4.2	1.000066
43500.0	179.6	-57.6		290.2	572.0	94.6	5.4	1.000065

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1130 HRS MDT
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UPPER AIR DATA
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GEODETTIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
44000.0	175.3	-58.1		283.9	571.4	271.6	7.7	1.000063
44500.0	171.1	-58.5		277.7	570.7	270.6	10.6	1.000062
45000.0	167.0	-59.0		271.7	570.1	273.0	13.0	1.000061
45500.0	163.0	-60.1		266.6	568.6	279.1	14.7	1.000059
46000.0	159.1	-61.4		261.7	566.9	283.1	16.4	1.000058
46500.0	155.2	-62.6		256.8	565.3	279.2	16.5	1.000057
47000.0	151.5	-63.8		252.1	563.7	275.4	16.8	1.000056
47500.0	147.7	-64.8		247.0	562.3	271.2	17.8	1.000055
48000.0	144.0	-65.6		241.8	561.3	267.3	19.1	1.000054
48500.0	140.4	-66.4		236.6	560.2	266.2	19.2	1.000053
49000.0	136.9	-67.2		231.6	559.1	268.3	17.6	1.000052
49500.0	133.5	-68.0		226.7	558.0	270.9	16.1	1.000051
50000.0	130.2	-68.8		222.0	556.9	269.0	15.9	1.000049
50500.0	126.9	-69.6		217.3	555.8	266.9	15.9	1.000048
51000.0	123.8	-70.5		212.7	554.7	264.1	15.9	1.000047
51500.0	120.7	-71.3		208.2	553.5	260.5	16.1	1.000046
52000.0	117.7	-72.1		203.8	552.4	256.8	16.2	1.000045
52500.0	114.7	-72.7		199.4	551.5	240.8	13.6	1.000044
53000.0	111.8	-71.9		193.6	552.7	219.8	12.5	1.000043
53500.0	109.0	-71.1		187.9	553.8	206.3	11.5	1.000042
54000.0	106.2	-70.3		182.4	554.9	196.9	10.1	1.000041
54500.0	103.6	-69.4		177.1	556.0	187.0	8.6	1.000039
55000.0	101.0	-68.6		171.9	557.2	190.3	5.1	1.000038
55500.0	98.4	-68.0		167.2	558.0	206.5	1.7	1.000037
56000.0	96.0	-67.5		162.6	558.7	327.3	1.2	1.000036
56500.0	93.6	-67.0		158.2	559.3	350.9	3.0	1.000035
57000.0	91.3	-66.5		154.0	560.0	.5	4.7	1.000034
57500.0	89.1	-66.0		149.8	560.7	33.5	5.9	1.000033
58000.0	86.9	-65.5		145.8	561.3	51.8	8.2	1.000032
58500.0	84.7	-65.0		141.8	562.0	64.9	9.7	1.000032
59000.0	82.6	-64.6		138.0	562.7	76.3	10.9	1.000031
59500.0	80.6	-63.5		134.0	564.1	85.5	12.5	1.000030
60000.0	78.7	-62.4		130.0	565.6	93.6	14.4	1.000029
60500.0	76.8	-61.2		126.2	567.2	99.8	16.5	1.000028
61000.0	74.9	-60.9		122.9	567.6	108.8	16.9	1.000027
61500.0	73.1	-60.7		119.9	567.8	118.4	17.5	1.000027
62000.0	71.3	-60.5		116.9	568.1	126.9	17.6	1.000026
62500.0	69.6	-60.3		114.0	568.3	135.7	14.1	1.000025
63000.0	68.0	-60.0		111.1	568.7	149.5	11.2	1.000025
63500.0	66.4	-59.7		108.3	569.1	150.0	10.0	1.000024

UPPER AIR DATA
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STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1130 HRS MDT
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GFODETC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (TN) DEGREES	SPEED KNOTS	INDEX OF REFRACTION
64000.0	64.8	-59.4		105.6	569.5	133.0	10.7	1.000024
64500.0	63.2	-59.1		103.0	569.9	119.1	12.1	1.000023
65000.0	61.7	-58.8		100.4	570.3	112.6	14.6	1.000022
65500.0	60.3	-58.5		97.8	570.7	108.6	17.2	1.000022
66000.0	58.8	-58.2		95.4	571.1	106.1	19.6	1.000021
66500.0	57.4	-57.9		93.0	571.5	107.0	17.9	1.000021
67000.0	56.1	-57.6		90.6	571.9	108.1	16.2	1.000020
67500.0	54.7	-57.3		88.4	572.3	107.9	14.8	1.000020
68000.0	53.4	-57.0		86.2	572.7	104.6	14.0	1.000019
68500.0	52.2	-56.7		84.0	573.1	100.9	13.2	1.000019
69000.0	50.9	-56.4		81.9	573.5	96.5	13.3	1.000018
69500.0	49.7	-56.0		79.8	574.0	92.0	13.9	1.000018
70000.0	48.6	-55.4		77.7	574.9	87.9	14.7	1.000017
70500.0	47.4	-54.7		75.7	575.8	84.8	18.8	1.000017
71000.0	46.3	-54.1		73.7	576.6	82.8	23.0	1.000016
71500.0	45.2	-53.4		71.7	577.5	81.4	26.6	1.000016
72000.0	44.2	-53.5		70.1	577.4	80.4	29.4	1.000016
72500.0	43.2	-53.6		68.5	577.2	79.5	32.1	1.000015
73000.0	42.2	-53.7		66.9	577.1	80.9	32.2	1.000015
73500.0	41.2	-53.9		65.4	576.9	82.6	31.8	1.000015
74000.0	40.2	-54.0		63.9	576.8	84.3	31.8	1.000014
74500.0	39.3	-54.1		62.5	576.6	85.8	32.4	1.000014
75000.0	38.4	-54.2		61.0	576.5	87.2	33.1	1.000014
75500.0	37.5	-53.6		59.5	577.3	88.5	32.4	1.000013
76000.0	36.6	-53.0		58.0	578.0	89.9	31.3	1.000013
76500.0	35.6	-52.4		56.5	578.8	91.3	30.2	1.000013
77000.0	35.0	-51.8		55.0	579.6	94.3	30.6	1.000012
77500.0	34.2	-51.2		53.6	580.4	97.2	31.1	1.000012
78000.0	33.4	-50.6		52.2	581.2	99.7	31.3	1.000012
78500.0	32.6	-50.0		50.9	581.9	100.9	30.5	1.000011
79000.0	31.9	-49.4		49.6	582.7	102.2	29.7	1.000011
79500.0	31.1	-48.8		48.3	583.5	101.5	28.0	1.000011
80000.0	30.4	-48.2		47.1	584.2	97.7	25.2	1.000010
80500.0	29.7	-47.8		45.9	584.8	92.9	22.6	1.000010
81000.0	29.0	-47.5		44.8	585.2	88.8	23.0	1.000010
81500.0	28.4	-47.2		43.8	585.6	85.8	25.0	1.000010
82000.0	27.8	-46.9		42.7	586.0	83.2	27.0	1.000010
82500.0	27.1	-46.6		41.7	586.3	84.1	29.0	1.000009
83000.0	26.5	-46.4		40.7	586.7	85.5	31.0	1.000009
83500.0	25.9	-46.1		39.8	587.1	86.7	32.9	1.000009

STATION ALTITUDE 4051.00 FEET MSL	UPPER AIR DATA	GEODETIC COORDINATES
22 JULY 81	2030030083	33.16712 LAT DEG
ASCENSION NO. 83	JALLEN	106.49511 LON DEG

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
8400.0	25.3	-45.8		38.8	587.4			1.000009
8450.0	24.8	-45.5		37.9	587.8			1.000008
8500.0	24.2	-45.2		37.0	588.2			1.000008

STATION ALTITUDE 4051.00 FEET MSL
 22 JULY 81 1130 HRS MDT
 ASCENSION NO. 83

MANDATORY LEVELS
 2030030083
 JALLEN
 TABLE 14

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REF. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4967.	29.9	10.5	30.	334.5	.2	
800.0	6729.	26.4	7.6	30.	355.3	2.3	
750.0	8583.	22.1	5.5	34.	4.1	5.5	
700.0	10533.	17.5	3.0	38.	33.9	7.5	
650.0	12591.	11.8	-.1	44.	112.6	6.5	
600.0	14766.	5.9	-6.7	40.	136.0	13.0	
550.0	17078.	-.5	-9.1	52.	128.0	20.6	
500.0	19555.	-4.3	-23.8	20.	182.9	13.9	
450.0	22253.	-9.6	-24.4	28.	218.9	11.5	
400.0	25201.	-16.4	-30.6	28.	216.0	9.8	
350.0	28450.	-22.4	-37.3	24.	167.6	5.9	
300.0	32108.	-30.5	-45.2	22.	175.7	5.1	
250.0	36271.	-40.4			188.7	4.0	
200.0	41133.	-52.4			2.3	.2	
175.0	43925.	-58.1			271.6	7.8	
150.0	47072.	-64.3			274.0	17.0	
125.0	50680.	-70.1			265.5	15.8	
100.0	55017.	-68.3			192.5	4.0	
80.0	59458.	-63.1			87.8	13.0	
70.0	62178.	-60.4			132.9	15.0	
60.0	65344.	-58.5			108.3	17.5	
50.0	69125.	-56.2			93.2	13.7	
40.0	73821.	-54.0			84.5	31.9	
30.0	79949.	-47.9			95.4	23.8	
25.0	83915.	-45.6					

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81
ASCENSION NO. 66

SIGNIFICANT LEVEL DATA

2030220066

NW 30

TABLE 15

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REF. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
877.6	4010.4	38.0	6.9	15.0
865.2	4436.3	35.0	10.8	23.0
850.0	4963.1	33.3	9.4	23.0
760.6	8204.2	23.8	5.2	30.0
700.0	10560.1	17.4	-3	30.0
644.0	12872.8	11.1	-7.2	27.0
609.8	14358.7	7.1	-7.3	35.0
592.8	15120.5	5.0	-5.6	46.0
567.8	16270.4	1.8	-11.0	38.0
543.0	17448.4	-1.2	-12.4	42.0
526.6	18250.0	-3.0	-19.8	26.0
500.0	19595.8	-4.6	-23.5	21.0
433.4	23246.1	-11.9	-27.9	25.0
400.0	25250.1	-16.0	-32.7	22.0
375.8	26785.4	-20.0	-34.5	26.0
360.6	27787.8	-22.7	-36.5	27.0
340.6	29162.3	-24.0	-39.6	22.0
300.0	32175.4	-30.0	-45.6	20.0
283.6	33484.1	-33.6	-47.9	22.0
271.4	34496.6	-35.3	-49.3	22.0
260.0	35477.0	-37.4	-50.8	23.0
250.0	36364.3	-39.9		
226.6	38550.9	-45.2		
200.0	41257.7	-51.9		
186.2	42773.9	-55.0		
172.4	44389.0	-56.8		
150.0	47243.8	-64.7		
134.2	49456.3	-70.0		
115.4	52394.5	-73.3		
101.6	54859.2	-72.5		
100.0	55169.3	-69.5		
88.4	57623.3	-65.0		
82.0	59135.7	-65.0		
75.8	60725.4	-63.1		
70.0	62337.1	-64.5		
64.8	63901.3	-62.8		
59.4	65694.6	-57.4		
54.2	67605.4	-57.8		
50.0	69296.1	-55.3		
42.5	72724.0	-55.2		

UPPER AIR DATA
2030220066
NW 30
TABLE 16

STATION ALTITUDE 4019.40 FEET MSL
22 JULY 81
ASCENSION NO. 66

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
4010.4	877.6	38.0	6.9	15.0	978.4	688.7	50.0	2.9	1.000257
4500.0	863.3	34.8	10.6	23.0	971.2	685.6	72.2	2.3	1.000268
5000.0	848.9	33.2	9.3	23.1	960.3	683.7	102.4	2.2	1.000261
5500.0	834.5	31.7	8.8	24.2	948.6	682.0	127.7	2.7	1.000258
6000.0	820.3	30.3	8.2	25.2	937.1	680.3	143.2	3.6	1.000254
6500.0	806.4	28.8	7.6	26.3	925.8	678.6	152.4	4.6	1.000250
7000.0	792.7	27.3	6.9	27.4	914.6	676.9	156.4	3.8	1.000246
7500.0	779.2	25.9	6.2	28.5	903.6	675.2	162.6	1.2	1.000242
8000.0	765.9	24.4	5.5	29.6	892.8	673.5	328.8	1.5	1.000238
8500.0	752.7	23.0	4.5	30.0	881.7	671.8	343.4	3.7	1.000233
9000.0	739.6	21.6	3.3	30.0	870.5	670.2	348.3	5.3	1.000228
9500.0	726.6	20.3	2.2	30.0	859.5	668.6	357.8	4.5	1.000223
10000.0	714.0	18.9	1.0	30.0	848.6	667.0	4.4	3.4	1.000218
10500.0	701.5	17.6	-0.2	30.0	837.9	665.3	9.2	1.7	1.000214
11000.0	689.0	16.2	-1.6	29.4	827.0	663.7	69.1	.4	1.000209
11500.0	676.7	14.8	-3.1	28.8	816.3	662.0	154.7	1.6	1.000204
12000.0	664.6	13.5	-4.6	28.1	805.7	660.4	157.8	3.7	1.000200
12500.0	652.7	12.1	-6.1	27.5	795.3	658.7	153.2	5.8	1.000195
13000.0	641.0	10.8	-7.1	27.7	784.9	657.1	144.2	8.3	1.000192
13500.0	629.3	9.4	-7.1	30.4	774.2	655.6	135.6	10.7	1.000190
14000.0	617.9	8.1	-7.2	33.1	763.8	654.0	127.7	13.3	1.000187
14500.0	606.6	6.7	-6.9	37.0	753.4	652.5	123.0	15.1	1.000185
15000.0	595.5	5.3	-5.8	44.3	743.0	650.9	119.3	16.7	1.000185
15500.0	584.4	3.9	-7.4	43.4	733.1	649.2	118.9	18.3	1.000181
16000.0	573.6	2.6	-9.7	39.9	723.4	647.5	118.8	19.9	1.000176
16500.0	562.9	1.2	-11.2	38.8	713.5	645.9	120.8	20.7	1.000172
17000.0	552.3	-0.1	-11.9	40.5	703.4	644.3	122.8	21.3	1.000169
17500.0	541.9	-1.3	-12.8	41.0	693.4	642.8	128.2	19.1	1.000166
18000.0	531.7	-2.4	-17.2	31.0	683.4	641.3	134.9	17.1	1.000160
18500.0	521.6	-3.3	-20.4	25.1	672.7	640.2	149.4	13.1	1.000156
19000.0	511.6	-3.9	-21.8	23.2	661.4	639.5	173.9	10.5	1.000153
19500.0	501.8	-4.5	-23.3	21.4	650.3	638.8	197.3	8.0	1.000150
20000.0	492.1	-5.4	-24.0	21.4	639.9	637.7	231.0	7.2	1.000147
20500.0	482.6	-6.4	-24.6	22.0	629.9	636.5	247.0	7.0	1.000145
21000.0	473.2	-7.4	-25.1	22.5	620.0	635.3	260.8	7.0	1.000142
21500.0	464.1	-8.4	-25.7	23.1	610.3	634.1	254.1	7.1	1.000140
22000.0	455.1	-9.4	-26.3	23.6	600.7	632.9	245.3	7.5	1.000138
22500.0	446.2	-10.4	-26.9	24.2	591.3	631.7	239.9	8.1	1.000135
23000.0	437.6	-11.4	-27.6	24.7	582.1	630.4	235.4	8.8	1.000133
23500.0	429.0	-12.4	-28.5	24.6	572.9	629.2	233.4	8.4	1.000131

STATION ALTITUDE 4010.40 FEET NSL
22 JULY 81 1.330 HRS MDT
ASCENSION NO. 66

UPPER AIR DATA
203022066
NW 30

GEODETTIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 16 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
24000.0	420.5	-13.4	23.9	563.8	628.0	230.3	8.0	1.000128
24500.0	412.2	-14.5	23.1	554.9	626.7	222.7	7.4	1.000126
25000.0	404.0	-15.5	22.4	546.0	625.5	214.7	6.7	1.000124
25500.0	396.0	-16.7	22.7	537.6	624.0	205.9	5.7	1.000122
26000.0	388.0	-18.0	24.0	529.5	622.5	194.2	5.0	1.000120
26500.0	380.2	-19.3	25.3	521.5	620.9	179.4	4.5	1.000118
27000.0	372.5	-20.6	26.2	513.6	619.2	169.9	4.6	1.000116
27500.0	364.9	-21.9	26.7	505.8	617.6	168.8	5.0	1.000114
28000.0	357.4	-22.9	26.2	497.4	616.4	166.8	5.8	1.000112
28500.0	350.1	-23.4	24.4	488.2	615.8	163.7	6.9	1.000110
29000.0	342.9	-23.8	22.6	479.1	615.2	161.5	8.2	1.000108
29500.0	335.8	-24.7	21.8	470.7	614.2	160.1	9.6	1.000106
30000.0	328.8	-25.7	21.4	462.7	612.9	159.1	11.1	1.000104
30500.0	321.9	-26.7	21.1	454.9	611.7	159.4	10.7	1.000102
31000.0	315.2	-27.7	20.8	447.3	610.4	159.9	10.0	1.000100
31500.0	308.7	-28.7	20.4	439.7	609.2	160.6	8.3	1.000099
32000.0	302.2	-29.7	20.1	432.3	608.0	162.0	6.1	1.000097
32500.0	295.8	-30.9	20.5	425.4	606.4	163.9	4.8	1.000095
33000.0	289.6	-32.3	21.3	418.7	604.7	165.5	4.3	1.000094
33500.0	283.4	-33.6	22.0	412.1	603.0	167.6	4.7	1.000092
34000.0	277.3	-34.5	22.0	404.7	601.9	168.9	6.7	1.000091
34500.0	271.4	-35.3	22.0	397.4	600.8	169.6	8.5	1.000089
35000.0	265.5	-36.4	22.5	390.6	599.5	170.3	9.9	1.000087
35500.0	259.7	-37.5	22.4**	383.9	598.1	170.8	11.2	1.000086
36000.0	254.1	-38.9	9.4**	377.8	596.3	170.3	11.6	1.000084
36500.0	248.5	-40.2		371.6	594.6	169.9	12.1	1.000083
37000.0	243.0	-41.4		365.3	593.0	167.8	12.2	1.000081
37500.0	237.6	-42.7		359.0	591.5	165.3	12.3	1.000080
38000.0	232.3	-43.9		352.9	589.9	161.3	11.4	1.000079
38500.0	227.1	-45.1		346.9	588.3	155.5	10.1	1.000077
39000.0	222.0	-46.3		340.9	586.8	150.8	9.0	1.000076
39500.0	216.9	-47.5		334.9	585.1	148.1	8.2	1.000075
40000.0	211.9	-48.8		329.1	583.5	145.4	7.4	1.000073
40500.0	207.1	-50.0		323.4	581.9	142.8	6.7	1.000072
41000.0	202.4	-51.3		317.8	580.3	139.6	5.9	1.000071
41500.0	197.7	-52.4		312.0	578.8	134.6	4.9	1.000069
42000.0	193.1	-53.4		306.2	577.5	127.1	4.0	1.000068
42500.0	188.6	-54.4		300.4	576.1	148.2	2.1	1.000067
43000.0	184.2	-55.3		294.5	575.1	227.8	1.9	1.000066
43500.0	179.9	-55.8		288.3	574.3	268.4	4.2	1.000064

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
 22 JULY 81 1330 HRS MDT
 ASCENSION NO. 66

UPPER AIR DATA
 2030220066
 NW 30
 TABLE 16 CONT

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
44000.0	175.6	-56.4		282.2	573.6	263.8	7.7	1.000063
44500.0	171.5	-57.1		276.5	572.6	289.3	11.2	1.000062
45000.0	167.3	-58.5		271.6	570.8	290.5	12.7	1.000060
45500.0	163.3	-59.9		266.8	568.9	291.5	14.2	1.000059
46000.0	159.4	-61.3		262.0	567.1	289.8	14.6	1.000058
46500.0	155.5	-62.6		257.4	565.2	287.1	14.7	1.000057
47000.0	151.8	-64.0		252.9	563.4	285.6	14.7	1.000056
47500.0	148.1	-65.3		248.2	561.6	285.5	14.7	1.000055
48000.0	144.4	-66.5		243.4	560.0	285.4	14.6	1.000054
48500.0	140.8	-67.7		238.8	558.4	285.1	14.4	1.000053
49000.0	137.3	-68.9		234.2	556.8	284.8	14.1	1.000052
49500.0	133.9	-70.0		229.7	555.2	282.7	13.9	1.000051
50000.0	130.5	-70.6		224.5	554.4	279.9	13.6	1.000050
50500.0	127.2	-71.2		219.4	553.7	276.0	13.1	1.000049
51000.0	124.0	-71.7		214.4	552.9	270.4	12.3	1.000048
51500.0	120.8	-72.3		209.6	552.1	264.5	11.7	1.000047
52000.0	117.8	-72.9		204.8	551.4	266.5	10.5	1.000046
52500.0	114.8	-73.3		200.0	550.8	269.0	9.3	1.000045
53000.0	111.8	-73.1		194.8	551.0	273.7	7.8	1.000043
53500.0	109.0	-72.9		189.6	551.2	282.5	6.2	1.000042
54000.0	106.2	-72.8		184.7	551.5	296.9	4.9	1.000041
54500.0	103.5	-72.6		179.8	551.7	286.6	4.1	1.000040
55000.0	100.9	-71.1		173.9	553.7	271.9	3.5	1.000039
55500.0	98.4	-68.9		167.7	556.8	269.8	2.8	1.000037
56000.0	95.9	-68.0		162.8	558.0	286.8	2.0	1.000036
56500.0	93.5	-67.1		158.1	559.3	325.7	1.2	1.000035
57000.0	91.2	-66.1		153.5	560.5	96.2	4.0	1.000034
57500.0	88.9	-65.2		149.0	561.8	102.2	8.9	1.000033
58000.0	86.8	-65.0		145.2	562.1	109.7	12.5	1.000032
58500.0	84.6	-65.0		141.6	562.1	121.5	14.9	1.000032
59000.0	82.6	-65.0		138.2	562.1	129.8	17.7	1.000031
59500.0	80.5	-64.6		134.5	562.6	134.8	18.2	1.000030
60000.0	78.6	-64.0		130.8	563.5	139.5	17.2	1.000029
60500.0	76.6	-63.4		127.3	564.3	144.6	16.4	1.000028
61000.0	74.8	-63.3		124.2	564.3	148.2	16.1	1.000028
61500.0	73.0	-63.8		121.4	563.7	151.5	15.9	1.000027
62000.0	71.2	-64.2		118.7	563.1	154.7	15.7	1.000026
62500.0	69.4	-64.3		115.8	563.0	156.7	13.4	1.000026
63000.0	67.7	-63.8		112.7	563.7	159.5	11.2	1.000025
63500.0	66.1	-63.2		109.7	564.4	156.9	9.0	1.000024

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81 1330 HRS MDT
ASCENSION NO. 66

UPPER AIR DATA
2030220066
NW 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 16 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
6400.0	64.5	-62.5		106.7	565.4	133.6	7.4	1.000024
6450.0	62.9	-61.0		103.4	567.4	105.0	7.4	1.000023
6500.0	61.4	-59.5		100.2	569.5	93.2	9.4	1.000022
6550.0	60.0	-58.0		97.1	571.5	94.0	12.1	1.000022
6600.0	58.5	-57.5		94.5	572.1	94.5	14.7	1.000021
6650.0	57.2	-57.6		92.4	572.0	94.2	16.8	1.000021
6700.0	55.8	-57.7		90.2	571.9	92.5	17.6	1.000020
6750.0	54.5	-57.8		88.1	571.7	91.0	18.5	1.000020
6800.0	53.2	-57.2		85.8	572.5	89.1	19.4	1.000019
6850.0	51.9	-56.5		83.5	573.5	83.4	21.0	1.000019
6900.0	50.7	-55.7		81.3	574.4	78.6	22.7	1.000018
6950.0	49.5	-55.3		79.2	575.0	74.6	24.6	1.000018
7000.0	48.4	-55.3		77.3	575.0	74.4	25.7	1.000017
7050.0	47.2	-55.3		75.5	575.1	74.7	26.7	1.000017
7100.0	46.1	-55.3		73.7	575.1			1.000016
7150.0	45.0	-55.2		72.0	575.1			1.000016
7200.0	44.0	-55.2		70.3	575.1			1.000016
7250.0	43.0	-55.2		68.7	575.1			1.000015

STATION ALTITUDE 4010.40 FEET MSL
22 JULY 81 130 HRS MDT
ASCENSION NO. 66

MANDATORY LEVELS
2030220066
NW 30

GEODETTIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 17

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4960.	33.3	9.4	23.	100.0	2.2	
800.0	6739.	28.1	7.3	27.	155.5	5.1	
750.0	8599.	22.7	4.3	30.	344.5	4.2	
700.0	10550.	17.4	- .3	30.	10.4	1.5	
650.0	12605.	11.8	-6.4	27.	150.6	6.3	
600.0	14779.	5.9	-6.2	41.	120.8	16.0	
550.0	17090.	- .3	-12.0	41.	123.8	20.8	
500.0	19568.	-4.6	-23.5	21.	202.5	7.7	
450.0	22262.	-10.0	-26.7	24.	242.1	7.8	
400.0	25208.	-16.0	-32.7	22.	210.8	6.2	
350.0	28456.	-23.4	-38.1	24.	163.7	6.9	
300.0	32111.	-30.0	-45.6	20.	162.7	5.4	
250.0	36284.	-39.9			170.1	11.9	
200.0	41157.	-51.9			137.4	5.4	
175.0	43963.	-56.5			284.7	8.1	
150.0	47115.	-64.7			285.5	14.7	
125.0	50698.	-71.6			272.5	12.6	
100.0	54999.	-69.5			266.9	3.4	
80.0	59436.	-64.4			135.8	18.0	
70.0	62123.	-64.5			155.8	14.3	
60.0	65250.	-58.0			93.9	11.8	
50.0	69035.	-55.3			76.4	23.7	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81
ASCENSION NO. 84

SIGNIFICANT LEVEL DATA
2030030084
JALLEN

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 18

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
874.6	37.2	8.9	18.0
850.0	34.3	14.2	30.0
700.0	18.8	3.4	36.0
570.2	2.9	-5.2	55.0
529.2	-1.3	-17.4	28.0
500.0	-4.4	-21.9	24.0
472.6	-6.5	-21.9	28.0
400.0	-15.4	-30.9	25.0
355.2	-23.1	-36.5	28.0
341.8	-23.4	-38.6	23.0
313.4	-27.3	-42.4	22.0
300.0	-30.2	-44.5	23.0
284.8	-32.6	-45.9	25.0
278.8	-33.0	-46.2	25.0
261.2	-37.0	-49.7	25.0
250.0	-39.7		
200.0	-51.4		
179.2	-56.0		
150.0	-65.3		
126.0	-71.3		
105.4	-71.0		
100.0	-68.4		
80.8	-62.9		
72.4	-63.4		
70.0	-60.9		
62.0	-57.0		
50.0	-56.1		
45.4	-55.5		
40.0	-50.7		
30.0	-48.5		
28.0	-47.3		

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

UPPER AIR DATA
2030030084
JALLEN
TABLE 19

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1430 HRS MDT
ASCENSION NO. 84

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DEWPOINT DEGREES CENTIGRADE	SPECU OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	TEMPERATURE CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
4051.0	874.6	37.2	8.9	18.0	976.9	688.0	0.0	0.0	1.000263
4500.0	861.6	35.7	12.2	24.3	965.8	686.8	164.6	.8	1.000272
5000.0	847.2	34.0	14.1	30.1	953.9	685.3	164.6	1.8	1.000277
5500.0	832.7	32.7	13.1	30.6	942.1	683.6	164.6	2.7	1.000271
6000.0	818.5	31.3	12.2	31.2	930.4	682.0	164.6	3.7	1.000266
6500.0	804.5	29.9	11.3	31.7	918.9	680.3	195.5	3.7	1.000260
7000.0	790.7	28.5	10.3	32.2	907.6	678.7	224.0	3.3	1.000255
7500.0	777.2	27.2	9.4	32.8	896.4	677.1	227.7	4.0	1.000249
8000.0	763.9	25.8	8.4	33.3	885.4	675.4	223.1	4.6	1.000244
8500.0	750.9	24.4	7.5	33.8	874.5	673.8	206.2	4.7	1.000239
9000.0	738.0	23.0	6.5	34.4	863.8	672.1	196.3	5.1	1.000234
9500.0	725.4	21.6	5.5	34.9	853.2	670.5	170.9	5.9	1.000230
10000.0	713.0	20.3	4.5	35.4	842.8	668.8	164.5	6.8	1.000225
10500.0	700.8	18.9	3.5	36.0	832.4	667.2	157.9	7.0	1.000220
11000.0	688.2	17.5	2.9	37.6	821.5	665.5	150.4	7.8	1.000217
11500.0	675.8	16.1	2.2	39.3	810.7	663.9	138.9	8.6	1.000213
12000.0	663.6	14.7	1.5	40.9	800.1	662.2	131.2	9.0	1.000210
12500.0	651.6	13.2	.8	42.6	789.6	660.5	126.4	9.5	1.000206
13000.0	639.8	11.8	.1	44.3	779.3	658.9	124.5	10.2	1.000202
13500.0	628.3	10.4	-.7	46.0	769.1	657.2	123.2	11.9	1.000199
14000.0	616.9	9.0	-1.5	47.7	759.1	655.5	120.2	13.6	1.000195
14500.0	605.8	7.6	-2.3	49.4	749.3	653.8	117.4	15.2	1.000192
15000.0	594.9	6.2	-3.2	51.1	739.6	652.1	114.5	16.5	1.000188
15500.0	584.1	4.8	-4.0	52.8	730.0	650.4	113.5	17.7	1.000185
16000.0	573.6	3.4	-4.9	54.5	720.6	648.7	117.3	17.3	1.000182
16500.0	562.9	2.2	-7.0	50.4	710.6	647.2	122.7	16.3	1.000176
17000.0	552.4	1.1	-9.9	43.5	700.3	645.8	129.2	13.4	1.000171
17500.0	542.0	.0	-13.0	36.7	690.1	644.4	141.0	10.8	1.000165
18000.0	531.9	-1.0	-16.4	29.8	680.1	643.1	155.4	8.2	1.000160
18500.0	521.8	-2.1	-18.5	27.0	669.9	641.8	173.3	6.0	1.000157
19000.0	511.9	-3.1	-20.0	25.7	659.8	640.5	198.2	4.3	1.000153
19500.0	502.2	-4.2	-21.5	24.3	649.8	639.2	239.7	4.8	1.000150
20000.0	492.6	-5.0	-21.9	25.1	639.3	638.3	267.3	5.2	1.000148
20500.0	483.1	-5.7	-21.9	26.4	628.7	637.4	274.6	4.7	1.000146
21000.0	473.8	-6.4	-21.9	27.8	618.3	636.5	257.7	4.8	1.000143
21500.0	464.6	-7.4	-22.9	27.7	608.6	635.3	231.3	5.5	1.000141
22000.0	455.5	-8.5	-23.9	27.3	599.1	634.0	220.4	6.3	1.000138
22500.0	446.6	-9.5	-25.0	27.0	589.7	632.8	213.6	6.6	1.000136
23000.0	437.8	-10.6	-26.0	26.6	580.5	631.5	212.3	6.9	1.000133
23500.0	429.2	-11.6	-27.1	26.3	571.5	630.2	209.9		1.000131

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1430 HRS MDT
ASCENSION NO. 84

UPPER AIR DATA
2030030084
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GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 19 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM./CUBIC METER	SPEED OF SOUND KNOTS	*IND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	420.8	-12.7	25.9	562.6	628.9	206.2	7.2	1.000129
24500.0	412.6	-13.7	25.6	553.8	627.6	200.3	7.6	1.000126
25000.0	404.5	-14.8	25.2	545.2	626.3	193.0	8.2	1.000124
25500.0	396.5	-16.0	25.2	536.8	624.9	186.3	7.9	1.000122
26000.0	388.5	-17.3	25.7	528.7	623.3	178.1	7.0	1.000120
26500.0	380.6	-18.6	26.3	520.7	621.6	174.7	6.3	1.000118
27000.0	372.9	-19.9	26.8	512.9	620.0	174.4	5.7	1.000116
27500.0	365.4	-21.3	27.3	505.2	618.4	179.2	5.5	1.000114
28000.0	358.0	-22.6	27.8	497.6	616.8	185.4	5.5	1.000113
28500.0	350.7	-23.2	26.3	488.6	616.0	182.9	6.2	1.000110
29000.0	343.5	-23.4	23.6	478.9	615.8	180.7	6.9	1.000108
29500.0	336.4	-24.1	22.8	470.5	614.9	178.0	8.3	1.000106
30000.0	329.4	-25.1	22.6	462.5	613.7	176.4	9.6	1.000104
30500.0	322.6	-26.0	22.3	454.6	612.5	177.9	9.4	1.000102
31000.0	315.9	-26.9	22.1	446.9	611.3	179.7	9.1	1.000100
31500.0	309.3	-28.2	22.3	439.8	609.8	184.3	7.7	1.000099
32000.0	302.8	-29.6	22.8	433.1	608.1	190.8	6.5	1.000097
32500.0	296.4	-30.8	23.5	426.0	606.6	192.7	6.0	1.000096
33000.0	290.1	-31.7	24.3	418.6	605.3	194.8	5.6	1.000094
33500.0	284.0	-32.7	25.0	411.3	604.2	196.2	6.1	1.000092
34000.0	277.9	-33.2	25.0	403.4	603.5	197.3	6.7	1.000090
34500.0	271.9	-34.5	25.0	397.0	601.8	199.5	7.4	1.000089
35000.0	266.1	-35.9	25.0	390.6	600.1	202.1	8.1	1.000087
35500.0	260.3	-37.2	23.1*	384.4	598.4	203.0	9.0	1.000086
36000.0	254.7	-38.6	10.5**	378.2	596.7	201.9	10.3	1.000084
36500.0	249.1	-39.9		372.0	595.0	199.5	11.3	1.000083
37000.0	243.5	-41.1		365.5	593.5	194.2	11.8	1.000081
37500.0	238.0	-42.3		359.1	591.9	189.9	11.8	1.000080
38000.0	232.6	-43.5		352.8	590.4	186.4	10.6	1.000079
38500.0	227.4	-44.7		346.7	588.9	184.2	9.5	1.000077
39000.0	222.3	-45.9		340.7	587.3	186.5	8.4	1.000076
39500.0	217.3	-47.1		334.8	585.8	189.2	7.4	1.000075
40000.0	212.4	-48.3		329.0	584.2	191.2	6.2	1.000073
40500.0	207.6	-49.4		323.3	582.7	194.3	5.1	1.000072
41000.0	202.9	-50.6		317.7	581.1	202.0	4.7	1.000071
41500.0	198.3	-51.8		312.0	579.7	210.9	4.4	1.000069
42000.0	193.7	-52.7		306.1	578.4	234.7	5.5	1.000068
42500.0	189.2	-53.7		300.3	577.1	251.2	7.7	1.000067
43000.0	184.7	-54.7		294.6	575.8	263.0	10.2	1.000066
43500.0	180.4	-55.7		289.1	574.5	272.9	13.0	1.000064

** AT LAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1430 HRS MT
ASCENSION NO. 84

UPPER AIR DATA
2030030084
JALLEN
TABLE 19 CONT

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
44000.0	176.1	-56.9		283.7	572.9	279.0	15.9	1.000063
44500.0	171.9	-58.2		278.6	571.2	282.2	16.1	1.000062
45000.0	167.8	-59.5		273.5	569.5	285.3	16.4	1.000061
45500.0	163.7	-60.7		268.5	567.8	285.8	15.9	1.000060
46000.0	159.8	-62.0		263.6	566.1	284.8	15.1	1.000059
46500.0	155.9	-63.3		258.8	564.4	281.6	14.3	1.000058
47000.0	152.2	-64.5		254.1	562.7	274.0	14.0	1.000057
47500.0	148.5	-65.7		249.2	561.2	267.0	14.1	1.000056
48000.0	144.8	-66.5		244.0	560.0	265.6	15.4	1.000054
48500.0	141.1	-67.4		239.0	558.8	264.5	16.6	1.000053
49000.0	137.6	-68.3		234.0	557.6	266.0	16.4	1.000052
49500.0	134.2	-69.1		229.1	556.5	267.4	16.3	1.000051
50000.0	130.8	-70.0		224.4	555.3	267.0	14.8	1.000050
50500.0	127.6	-70.9		219.7	554.1	264.5	12.4	1.000049
51000.0	124.4	-71.3		214.6	553.5	261.0	10.0	1.000048
51500.0	121.2	-71.2		209.1	553.6	256.9	7.8	1.000047
52000.0	118.2	-71.2		203.8	553.6	249.8	5.6	1.000045
52500.0	115.2	-71.1		198.6	553.7	241.0	3.9	1.000044
53000.0	112.3	-71.1		193.5	553.8	234.1	2.6	1.000043
53500.0	109.4	-71.1		188.6	553.8	214.1	1.4	1.000042
54000.0	106.6	-71.0		183.8	553.9	219.1	1.1	1.000041
54500.0	104.0	-70.3		178.6	554.8	244.6	1.4	1.000040
55000.0	101.4	-69.1		173.0	556.5	258.6	1.9	1.000039
55500.0	98.8	-68.1		167.9	557.9	254.1	2.7	1.000037
56000.0	96.4	-67.5		163.3	558.7	251.5	3.4	1.000036
56500.0	94.0	-66.8		158.7	559.6	228.0	2.8	1.000035
57000.0	91.7	-66.2		154.4	560.5	159.4	3.4	1.000034
57500.0	89.5	-65.5		150.1	561.4	135.0	6.3	1.000033
58000.0	87.2	-64.9		145.9	562.2	149.2	10.9	1.000032
58500.0	85.1	-64.2		141.9	563.1	156.4	16.1	1.000032
59000.0	83.0	-63.6		138.0	564.0	159.7	19.6	1.000031
59500.0	81.0	-63.0		134.2	564.8	161.7	18.2	1.000030
60000.0	79.0	-63.0		130.9	564.8	164.0	16.7	1.000029
60500.0	77.1	-63.1		127.8	564.6	165.9	13.1	1.000028
61000.0	75.2	-63.2		124.8	564.4	169.0	8.2	1.000028
61500.0	73.4	-63.3		121.8	564.3	181.0	3.4	1.000027
62000.0	71.6	-62.6		118.4	565.3	199.4	1.8	1.000026
62500.0	69.9	-60.8		114.6	567.7	251.7	1.1	1.000026
63000.0	68.2	-60.1		111.5	568.7	325.0	1.3	1.000025
63500.0	66.6	-59.3		108.4	569.7	50.2	3.9	1.000024

UPPER AIR DATA
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STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81
ASCENSION NO. 84

TEMPERATURE
AIR DEWPOINT
DEGREES CENTIGRADE

REL. HUM.
PERCENT

DENSITY
GM/CUBIC
METER

SPEED OF
SOUND
KNOTS

WIND DATA
DIRECTION
DEGREES (TN)

SPEED
KNOTS

INDEX
OF
REFRACTION

TABLE 19 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
64000.0	65.0	-58.5		105.5	570.8	59.6	7.8	1.000023
64500.0	63.4	-57.7		102.6	571.8	66.3	11.0	1.000023
65000.0	61.9	-57.0		99.8	572.8	74.3	13.4	1.000022
65500.0	60.5	-56.9		97.4	572.9	79.9	16.0	1.000022
66000.0	59.0	-56.8		95.1	573.0	82.0	18.5	1.000021
66500.0	57.6	-56.7		92.8	573.2	83.3	20.9	1.000021
67000.0	56.3	-56.6		90.5	573.3	83.3	22.8	1.000020
67500.0	55.0	-56.5		88.4	573.4	81.5	23.8	1.000020
68000.0	53.7	-56.4		86.2	573.6	79.9	24.9	1.000019
68500.0	52.4	-56.3		84.2	573.7	78.5	26.1	1.000019
69000.0	51.2	-56.2		82.1	573.8	77.3	27.3	1.000018
69500.0	50.0	-56.1		80.2	574.0	76.1	27.4	1.000018
70000.0	48.8	-55.9		78.2	574.2	74.6	26.2	1.000017
70500.0	47.6	-55.8		76.3	574.3	73.0	25.0	1.000017
71000.0	46.5	-55.7		74.5	574.5	75.4	24.0	1.000017
71500.0	45.4	-55.5		72.7	574.7	79.8	23.1	1.000016
72000.0	44.4	-54.6		70.7	575.9	84.6	22.3	1.000016
72500.0	43.3	-53.7		68.8	577.1	85.8	22.9	1.000015
73000.0	42.3	-52.9		66.9	578.2	86.6	23.6	1.000015
73500.0	41.4	-52.0		65.1	579.4	87.4	24.4	1.000014
74000.0	40.4	-51.1		63.4	580.6	92.8	25.0	1.000014
74500.0	39.5	-50.6		61.8	581.2	97.9	25.9	1.000014
75000.0	38.6	-50.4		60.3	581.4	102.4	27.0	1.000013
75500.0	37.7	-50.2		58.9	581.6	104.5	28.0	1.000013
76000.0	36.8	-50.1		57.5	581.9	106.5	29.1	1.000013
76500.0	36.0	-49.9		56.1	582.1	107.7	29.9	1.000013
77000.0	35.2	-49.7		54.8	582.3	105.3	29.3	1.000012
77500.0	34.4	-49.5		53.5	582.6	102.7	28.7	1.000012
78000.0	33.6	-49.4		52.3	582.8	100.5	28.3	1.000012
78500.0	32.8	-49.2		51.0	583.0	102.9	28.5	1.000011
79000.0	32.1	-49.0		49.8	583.3	105.3	28.8	1.000011
79500.0	31.3	-48.8		48.7	583.5			1.000011
80000.0	30.6	-48.7		47.5	583.7			1.000011
80500.0	29.9	-48.5		46.4	584.0			1.000010
81000.0	29.2	-48.1		45.2	584.5			1.000010
81500.0	28.6	-47.7		44.1	585.0			1.000010

STATION ALTITUDE 4051.00 FEET MSL
22 JULY 81 1430 HRS MDT
ASCENSION 110. 84

MANDATORY LEVELS
2030030084
JALLEN

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 20

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4901.	34.3	14.2	30.	184.6	1.6
800.0	6690.	29.5	11.0	32.	205.6	3.4
750.0	8561.	24.3	7.4	34.	204.1	4.8
700.0	10525.	18.8	3.4	36.	157.5	7.0
650.0	12592.	13.1	.7	43.	125.5	9.0
600.0	14777.	6.8	-2.8	50.	115.7	14.5
550.0	17097.	.9	-10.6	42.	131.4	15.6
500.0	19586.	-4.4	-21.9	24.	250.6	4.4
450.0	22287.	-9.1	-24.6	27.	215.1	6.1
400.0	25242.	-15.4	-30.9	25.	189.4	8.3
350.0	28496.	-23.2	-37.3	26.	182.7	6.2
300.0	32158.	-30.2	-44.5	23.	191.6	6.3
250.0	36339.	-39.7			200.6	11.2
200.0	41220.	-51.4			207.2	4.5
175.0	44029.	-57.2			279.8	15.9
150.0	47168.	-65.3			269.7	14.0
125.0	50755.	-71.3			261.9	10.5
100.0	55094.	-68.4			256.0	2.3
80.0	59546.	-62.9			162.6	17.5
70.0	62244.	-60.9			241.5	1.2
60.0	65423.	-56.9			80.8	16.7
50.0	69220.	-56.1			76.2	27.5
40.0	73913.	-50.7			94.7	25.3
30.0	80094.	-48.5				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

DAT
ILM